



Review: Data Recovery Software p.13



Business Tech: 4G Mobile Broadband p.27



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## THE Small Office SERVER



### Co-Working Offices

A Desk &  
Community p.28

### Business Cards Go Digital

Contact Exchange  
Gets An Update p.30

### Protect Your Business

DIY Office  
Surveillance p.71





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## The Small Office Server

- |   |   |
|---|---|
| <b>44 The Small Office Server</b><br>A Worker You Don't Have To Hire    | <b>49 Server Operating Systems</b><br>A First Look For First-Timers                           |
| <b>46 Servers 101</b><br>Combine & Conquer With A Small Business Server | <b>52 Install Windows Small Business Server</b><br>Store, Manage & Protect Your Business Data |

## News & Notes

- 8 Technology News & Notes**
- 12 Small Business Development Centers**

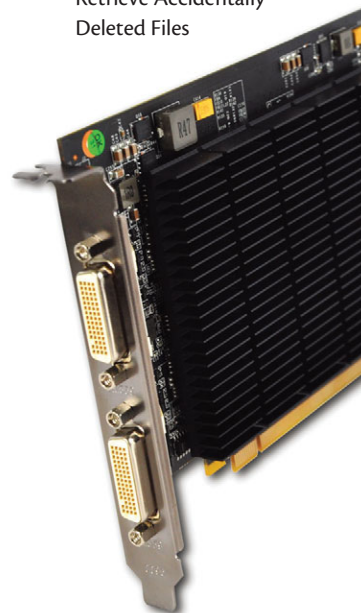
## Windows Central

- 20 Windows News, Views & Tips**
- 22 Windows Live SkyDrive**  
Clean & Intuitive Cloud Storage
- 25 Windows 8**  
A Look Inside The Upcoming Windows Transformation

## Reviews

### 13 Roundup: Data Recovery Software

Retrieve Accidentally Deleted Files



### 17 Hardware

#### 17 Galaxy MDT X4

A Multi-Monitor Maestro

### 18 Software

#### 18 Teambox

Online Collaboration

#### 19 FreshBooks

Billing & Bookkeeping



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## Computers & Electronics

- 27 Business Tech: 4G**  
Mobile Broadband Steps On The Gas
- 28 Co-Working Offices**  
A Desk & Community
- 30 Business Cards Go Digital**  
Contact Exchange Gets An Update
- 33 Browser Security**  
Safari
- 35 Mobile Marketplace**  
Business Apps For Android & Windows Phone 7

## Mac Corner

- 37 A Slice Of Apple**  
Mac Tips & Tricks
- 39 iCloud Rolls In**  
Apple's New Online Service
- 41 Fresh Fruit**  
Great Business Apps For iPad/iPhone/iPod



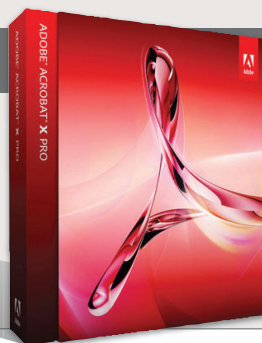
## Personal Technology

- 60 Find It Online**
- 62 Signing Off**  
Cancel Your Online Accounts
- 66 Readers' Tips**
- 67 CarMD**  
Because Vehicle Repair Shouldn't Be Scary!
- 68 Ovation**  
This month, we feature these products:
- Grace Digital Audio Eco Pod
  - Livescribe Echo



## Tech Support

- 69 News From The Help Desk**  
Common Tech Questions
- 71 How To Install**  
A Surveillance System
- 75 Tech Talk**  
Digital SLRs
- 78 Pest Control**  
Remove Stubborn Bugs



## Quick Studies

- 56 Quick Tips**  
Secrets For Succeeding In Common Tasks
- 58 Adobe Acrobat X**  
Digital IDs 101

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# Slim Notebooks Pack Big Firepower

**T**raditionally, notebooks considered to be desktop PC replacements are bulky behemoths that look like they might leave bruises on your lap. But times are changing as slim, stylish notebooks are increasingly sporting high-performance processors, loads of memory, and impressive storage capacities. Two new models from MSI are good examples of this trend.

The MSI X460 (starting at \$1,199.99; [www.msimobile.com](http://www.msimobile.com)) and X460DX (starting at \$799.99) weigh just 4.3 pounds and have 14-inch widescreen displays. THX TruStudio Pro technology appears on both models and is designed to deliver high-quality audio performance, while exclusive Cinema Pro technology lets users immediately switch to Movie Mode to optimize the picture quality and increase the bass to re-create the movie theater experience.

The X460 model includes an Intel Core i7 processor, 6GB of DDR3 (double-data-rate) memory, a 750GB hard drive, Intel HD 3000 integrated graphics, two USB 3.0 ports, one USB 2.0 port, a 2-in-1 card reader, a 1.3MP (megapixel) Web cam, a DVD super-multi drive, and Windows 7 Professional. This notebook also features Intel Wireless Display (WIDI), which lets users wirelessly stream content from the notebook directly to a TV.

Meanwhile, the X460DX model includes an Intel Core i3 processor, 4GB of DDR3 memory, a 500GB hard drive, Nvidia GeForce GT 540M graphics, Win7 Home Premium 64-bit, and the



The X460 slim notebook from MSI is packed with components that rival full-sized notebooks, including an Intel Core i7 processor, 6GB of memory, and a whopping 750GB hard drive.

same ports and card reader as the X460. MSI also offers a second X460DX model at a higher cost (\$899.99), and this includes an Intel Core i5 processor, 6GB of DDR3 RAM, and a 500GB hard drive.

All of these new MSI models include integrated wireless, HDMI (High-Definition Multimedia Interface) outputs, and extended battery life designed for

all-day computing (though the company acknowledges that battery life can vary depending on the usage condition). These notebooks also feature glossy multi-touch trackpads, textured power buttons, a hidden speaker design, and a monitor that lets users open the display up to 170 degrees (many notebooks allow up to only 130 degrees). ■



## STORAGE

## Patriot SSDs Bring Speed To Forefront

Solid-state drives continue to soar to new speed heights, as shown by a new line of SSDs from Patriot Memory powered by the SandForce SF-2200 processor.

The Wildfire series (starts at \$279; [www.patriotmemory.com](http://www.patriotmemory.com)) delivers sequential read speeds of up to 555MBps (megabytes per second) and sequential write speeds of up to 520MBps, thanks to the inclusion of a SATA (Serial Advanced Technology Attachment) III 6Gbps (gigabits per second) connection interface. For users with older systems, these drives provide backward compatibility with SATA II 3Gbps and SATA I 1.5Gbps interfaces.

These 2.5-inch drives come in several capacities, including 120GB, 240GB, and 480GB, and include a wide range of performance- and durability-enhancing technologies. These include TRIM support, DuraWrite technology (to help extend drive lifetime), Intelligent Block Management and Wear Leveling, Intelligent Read Disturb Management, RAISE (Redundant Array of Independent Silicon Elements), Intelligent Data Retention optimization, thermal threshold management, and more.

“To date, the Patriot Memory Wildfire is the fastest SSD drive we have released,” says William Lai, product manager at Patriot Memory. “This groundbreaking drive brings enterprise-like performance to the consumer market.” ■

The new Wildfire series of solid-state drives from Patriot Memory features lightning-quick read and write speeds, as well as a wide range of technologies designed to boost durability and performance.



## PRINTERS &amp; PERIPHERALS

## Epson AIOs Pair Productivity With High Image Quality

Epson released two new wireless AIOs (all in ones) that are packed with extras. The Epson Artisan 837 (\$299.99; [www.epson.com](http://www.epson.com)) and Artisan 730 (\$199.99) feature the company's MicroPiezo print head and produce professional-quality photos that resist smudges, scratches, water, and fading. Also included is built-in automatic photo correction that evaluates and corrects image problems, including red-eye.

But these AIOs aren't all about great photos, because they also include multiple features designed to boost productivity in small and home offices. For example, Epson Connect technology lets mobile users print Web pages, documents, email attachments, and more directly from smartphones, tablets, and other mobile devices.

These printers can also print directly to ink-jet-printable CDs and DVDs, and they can also be used to create stationery, greeting cards, and other media. On the speed front, these AIOs can output 9.6ppm (pages per minute) in black and 9.1ppm in color (for double-sided printing, these speeds drop to 4.9ppm black and 4.7ppm color). ■



The Artisan 837 is one of two new all-in-one wireless printers from Epson that not only can produce professional-quality photos but can also accommodate printing from a variety of mobile devices.



## NETWORKING

## One Wireless Router, Two Bands

**M**ore than ever, a network is critical to efficient computing environments, which highlights the need for high-performance networking equipment that can meet the varied needs of today's users. ZyXEL looks to meet those widespread needs with a unique router that accommodates more than one network data stream at a time.

The ZyXEL NBG5715 (about \$250; [www.zyxel.com](http://www.zyxel.com)) includes a 2.4GHz band for surfing the Web and performing other Internet tasks, as well as 5GHz band that can be used simultaneously to watch high-definition video. This Wireless N router achieves this dual networking through the use

of three dual-band, MIMO (multiple input, multiple output) antennas that deliver transfer rates of up to 450Mbps (megabits per second) over the two networks.

This router also includes SmartRange technology, which pinpoints wireless signals instead of broadcasting full wireless signals everywhere, like traditional routers. This technology helps to extend the range of the router's transmission to rooms located far beyond the router's location. Also onboard is advanced QoS (Quality of Service) technology that enhances the stability of multiple HD video streams, VoIP (Voice over Internet Protocol), Web surfing, and other networking functions delivered over fiber broadband services. ■



This innovative wireless router from ZyXEL features a 5GHz band for watching high-definition video and a 2.4GHz band for surfing the Web and performing other Internet tasks. Both bands can be used simultaneously.

## FEATURE PACKAGE TOPICS

Each *Smart Computing* issue includes tips, reviews, and information about a variety of topics. Plus, each issue also has a featured group of articles about a selected topic. Below is a list of the Feature Packages from the previous year. As a *Smart Computing* subscriber, you have access to all of our archived articles at [www.smartcomputing.com](http://www.smartcomputing.com).

October	2010	Do More With Your Network
November	2010	41 Windows Tips & Tricks
December	2010	Search Engine Optimization
January	2011	Solve Printer Problems

February	2011	Social Networking & Your Business
March	2011	Backup For Home & Office
April	2011	Solve Software Errors
May	2011	Update Your Web Site

June	2011	Small & Home Office Security
July	2011	PC Maintenance
August	2011	Mobile Computing
September	2011	Technology Troubleshooting Guide





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# SMALL BUSINESS Development Centers

Assistance For Entrepreneurs



**H**aven't the foggiest idea how to harness your entrepreneurial spirit, pull yourself anywhere using bootstraps, or think in or out of a box? Starting and running your own business is tough, but fortunately for prospective and current small business owners, SBDCs (Small Business Development Centers; [asbdc-us.org](http://asbdc-us.org)) dispense with the cliché and offer training, counseling, and other assistance to help you craft your vision into a real-world success.

## Run A Small Business

Pooling resources from federal, state, and local governments, as well as the private sector and the educational community, The Association of Small Business Development Centers is truly a joint venture with a vested interest in fostering small business growth. For an overview of what the SBDC can offer you and your small business, visit [bit.ly/dKYe2a](http://bit.ly/dKYe2a). The SBA (Small Business Administration; [www.sba.gov](http://www.sba.gov)) is partnered with SBDCs.

## Help On Your Turf

You may be surprised to learn that there's probably an SBDC branch nearby; there are locations in all 50 states, in the District of Columbia, Puerto Rico, and even in the U.S. territories. There are 63 nationwide Lead Small Business Development Centers coordinating program services for every sub-center and satellite location in each state. Centers are made up of directors, full-time

staff members, and various part-time staff and volunteers.

The best way to contact your nearest SBDC is to visit the Association of Small Business Development Centers' Web site ([asbdc-us.org](http://asbdc-us.org)), input your ZIP code into the Find Your Nearest Small Business Development Center text box, and then click Go. The results page will highlight Lead Centers but rank centers in order of those closest to your location. Often, SBDCs partner with universities and colleges, and

can expect from your nearest SBDC include help with financial, marketing, production, organization, engineering, and technical problems and access to feasibility studies that can flesh out a fledgling business plan. Some SBDCs also offer affordable training seminars to help with various aspects of running a business. You can also rest assured that your business with the SBDC will remain confidential.

## Women's Business Centers

The SBA offers WBCs (Women's Business Centers), which directly serve female entrepreneurs through nearly 100 educational centers nationwide. This organization strives to assist women in overcoming the hurdles they face in today's business environment by offering business management training and technical assistance to all women, with a special emphasis on economically or socially disadvantaged women. The services and training programs are also commonly offered in multiple languages to enable those who speak English as a second language or are still learning English. To find your nearest WBC, visit [bit.ly/hs3st2](http://bit.ly/hs3st2).

## Small Business, Big Payoff

Small business owners know that achieving success is about taking risks, innovating, and making tough decisions day in and day out. Thanks to the services offered at the SBA, SBDCs, and WBCs, you're not on your own. **I**

## Frequent Question

If you're like many other people starting a small business, funding is at the top of your mind. A common question that entrepreneurs have for SBDCs is: "Am I eligible for grant money?"

The answer depends on the nature of your business. [Grants.gov](http://www.grants.gov) ([www.grants.gov](http://www.grants.gov)) will give you a clear picture of your options before your visit to a Small Business Development Center.

tend to be found on campuses across the country. On the search results page, you'll also find a link to the local office's Web page, email address, phone number, a fax number if available, and address.

## The Closest Thing To A Free Lunch

The services offered may vary by location, but all SBDCs offer many services free of charge. Some typical services you



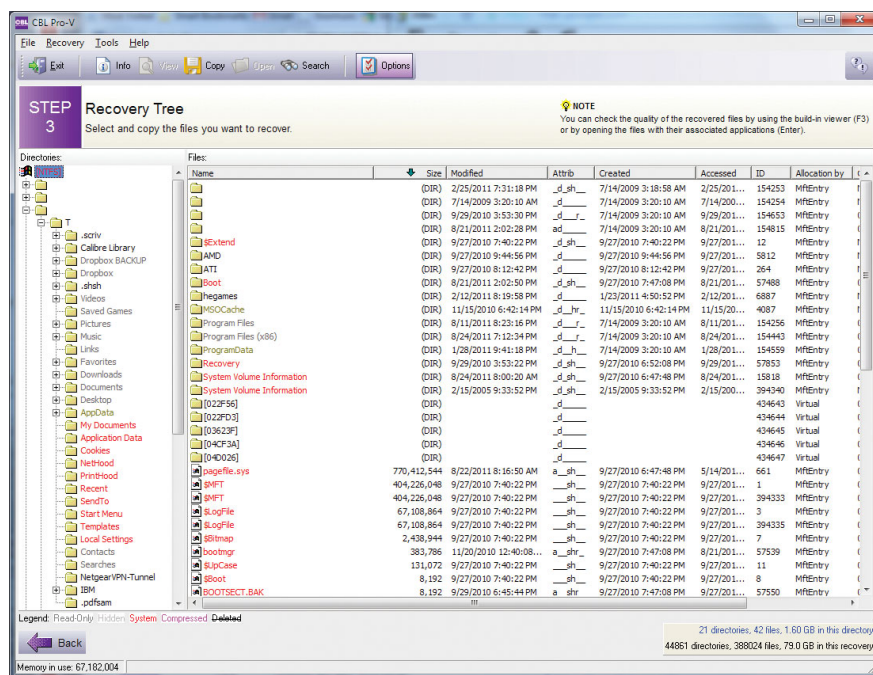
# Roundup: Data Recovery Software

## Retrieve Accidentally Deleted Files

There are two general categories of PC users: Those who have accidentally deleted files, and those who will. The first thing to do when this happens is panic, because panic is inevitable. The next step is to download a data recovery program and brag to everyone in the office about how you averted a crisis and saved the day.

Here's the secret: Windows uses an index to find files stored on the hard drive. When you delete a file in Windows, the index entry is erased, but the file itself stays on the drive until it is overwritten by another file. That is why it is absolutely critical that you avoid all hard drive activity after accidentally deleting a file, because if new information is written to the hard drive it could overwrite the data you want to get back.

If a data recovery tool is not already installed on your computer, use a different machine to download it. This avoids the irony of having a data recovery tool destroy the very files you're trying to recover. When you install the tool, whenever possible, use a different drive than the one on which the data you wish to recover is stored. Some data recovery tools are designed to run from a USB drive without requiring installation on your PC, and these are ideal if you've deleted files and don't already have a recovery tool installed. Finally, when restoring files, save them to a different drive



### CBL PRO-V

whenever possible or they may overwrite themselves.

We looked at four data recovery tools this month, but before diving into the software reviews, it's important to note that no consumer-level tool can retrieve files from a drive that is physically damaged. You'll need to call in the pros for that, as it requires special hardware and may not work no matter what is tried. We also should note that we created a folder full of different files that were deleted and emptied from the Recycle Bin before

testing each program. The software we tested varied in the number of files it recovered, but they all retrieved our test files just fine.

### CBL PRO-V

CBL ([www.cbldatarecovery.com](http://www.cbldatarecovery.com)) has been in business for nearly 20 years. Before using this software, be aware that you may need to run it in administrator mode for it to detect your drives. To do this in Windows 7, right-click the CBL PRO-V icon and click Run As Administrator. Launching the software

### BUYING TIP

Only use a data recovery product that has deep scan technology. This recovers all deleted files that haven't been overwritten, even if they no longer have their names attached. Just be aware that running a deep scan on a drive with a lot of storage capacity may take hours depending on how fast the drive and your computer are.

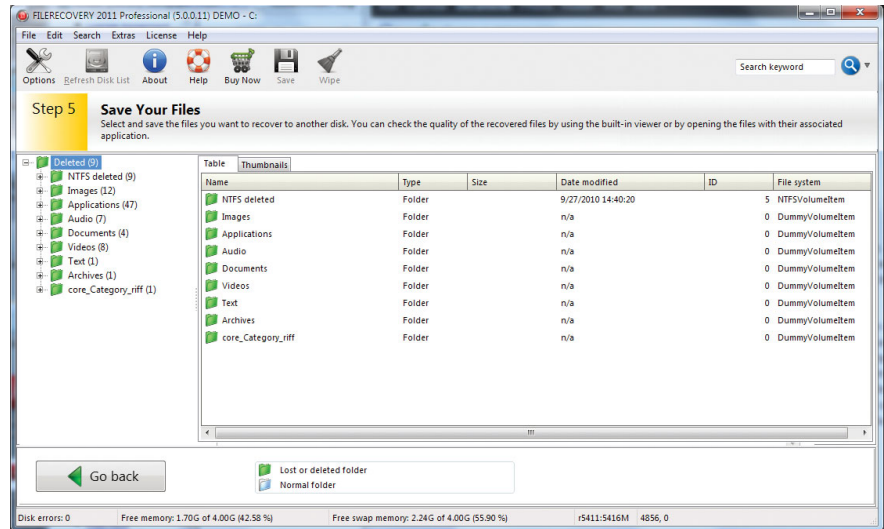


presents you with several options depending on what you want to recover. If you aren't sure, select the default settings. If you've formatted a drive and want to get files back, select the Systematic File System Damage option. If you've installed a new operating system on a hard drive and want to get files back, select Sustained File System Damage. Finally, if you've simply emptied the Recycle Bin, select I Want To Recover Deleted Files.

A warning box appears letting you know that you need administrator rights to run the software and also that UAC (User Account Control) must be switched off. Instructions for doing that are included in the message. The software then steps you through the recovery process, beginning with selecting a drive. The Select Drive screen also lets you perform a partial scan, which searches only one area of the hard drive to speed thing up but is only recommended for experts because it's difficult to know what part of the drive held your deleted file. There also is a Change Options button that lets you dig into some advanced settings, but leave those alone unless someone from CBL is walking you through an advanced recovery.

Scanning may take a long time, but the results are extremely thorough. Results appear in a Windows Explorer-like tree view, and although you can't switch the entire interface to a thumbnail view, you can see previews of files you want to recover by clicking the file and pressing F3 (alternately, you can right-click the file and click View).

CBL PRO-V did an outstanding job of finding and recovering deleted files on all the drives we tested it on,



## Filerecovery 2011 Professional

and it is a great choice for experts who don't need a lot of hand-holding or a slick interface.

## Filerecovery 2011 Professional

Filerecovery 2011 Professional ([www.lc-tech.com](http://www.lc-tech.com)) has a streamlined interface and makes data recovery fairly straightforward and convenient. Be aware that you may need administrator privileges to start it. To do this right-click the Filerecovery shortcut and click Run As Administrator.

The interface is basic and begins with selecting a drive. After that, a Choose Recovery Scenario window appears. This lets you choose among Deleted File Recovery, Formatted Media Recovery (for times when you want to retrieve deleted files from a newly formatted drive), and Wipe Data (a secure deletion program that overwrites files so they can never be found again).

Selecting Deleted File Recovery takes you to a screen where you can double-check that all the options you previously selected are correct, and then you click Continue to perform the scan. This takes some time because it is thorough, and when it is complete, a comprehensive Windows Explorer-type tree of found files is available. You can click through them to find what you want, search, or use the Search menu to enable Fuzzy Search, which will find matches for exactly what you type, along with words related to what you type. Experts can also click Options in the Extras menu to select an Advanced mode that is more full-featured (but harder to use) than is the default mode.

When exploring the file tree, the software defaults to a Table view that lists all files, but you can select the Thumbnails tab to see thumbnail images of whatever you're searching

### BUYING TIP

Good data recovery software often finds thousands of deleted files, so having plenty of options to sift through them is also good. The ability to sort files by the last time they were accessed can save a lot of time, because often, you're searching for things deleted recently. Sorting files by size is also handy, as many deleted files are tiny things leftover from Web browsing. Being able to drop those to the bottom of the list is convenient.

for. This is obviously useful for images but is also handy for PDF (Portable Document Format) files as you can glance at the front page instead of scrolling through hundreds of similar file names.

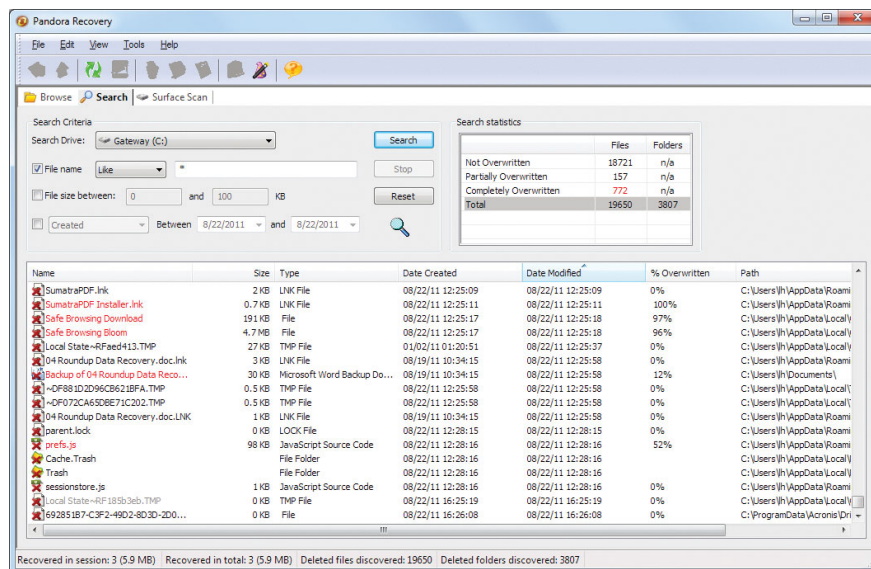
As with other commercial options, we recommend you try a free program first, but Filerecovery 2011 is a thorough and relatively simple option if you need more power than free options provide.

## Pandora Recovery

Pandora Recovery ([www.pandorarecovery.com](http://www.pandorarecovery.com)) is available free. During the installation, the software offers to install some separate software. Watch the checkboxes on each installation step closely and remove checks from the things you don't want to.

Overall, Pandora Recovery is a decent data recovery program. It defaults to a Pandora Recovery Wizard that walks you through the restore process, letting you check the Recycle Bin before proceeding to the data recovery step. You can search single drives or multiple drives and then choose among three recovery methods. The first lets you browse a list of found folders and files. The second lets you search for particular files by name, size, creation date, or time they were accessed. Finally, there is a deep Surface Scan mode that scours the entire drive for supported files, including photos, archived files, Microsoft Office files, music, and PDF files.

The standard search mode is the most useful place to start. It finds files that still have their original names attached, and results can be sorted by name, size, type, date created, date modified, percent overwritten, and the file path where they



## Pandora Recovery

were located. The percent overwritten value is particularly convenient because it lets you know right away if a file you need to get back has been damaged. No thumbnails are shown by default, but you can right-click a found file and click Quick View to see a preview.

The thorough scan option is the most configurable and returns the most results but doesn't display the original names of the files it finds (this is a limitation caused by Windows when a file is deleted and not a limitation of the software). Although thumbnail images are not displayed in the list of found files, you can click individual files to display a thumbnail (if available) in the left pane. We noticed that we could retrieve images even if they were partially damaged by overwriting, but partially overwritten PDF files did not open.

As long as you pay close attention during installation so software you don't want is not installed, Pandora Recovery is a fast and easy solution for recovering files.

## Recuva

We've been fans of Piriform's ([www.piriform.com](http://www.piriform.com)) CCleaner free drive cleaning utility for years, and while we weren't expecting much from a free data recovery tool, Recuva is excellent. It installs quickly and cleanly, and you can use it on a USB drive in portable mode so you don't have to download it or install it to the drive from which you're recovering data. It also comes with a secure delete tool so that if you find something private that you meant to delete, you can remove it in a way that not even a data recovery tool will find it.

The easiest way to use Recuva is via the wizard, which walks you through

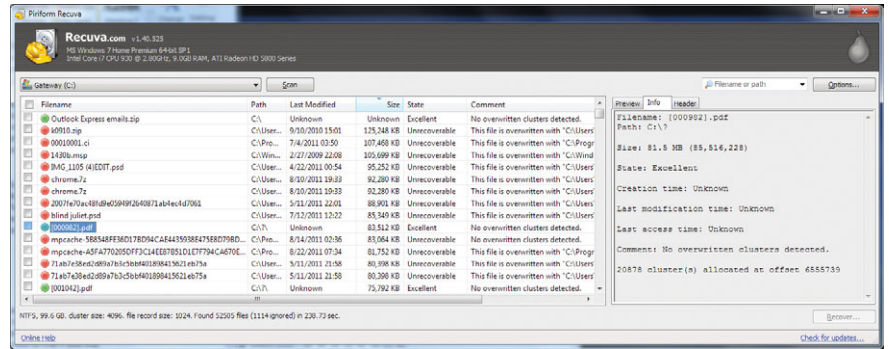
## BUYING TIP

Now that you know how easy it is to recover files you thought were gone forever, there may be files you don't want anyone to find. Some data recovery tools come with a secure delete tool that overwrites recovered files of your choosing with random data, destroying them completely. Look for options that overwrite the data more than once for extra security, but know that doing so can take a lot of time.



the recovery process step-by-step. You can select a particular type of file to search for or search for everything and then click Next and tell the software where you want it to search. If you don't know where to look, select I'm Not Sure, which scans everything, but using one of the other options to narrow it down cuts down dramatically on scanning time. The next page of the wizard has an Enable Deep Scan checkbox that should be checked if you want the program to work as thoroughly as possible. In many cases, files you've just deleted accidentally can be recovered without selecting this option, but we recommend checking it and putting up with the increased amount of time Deep Scan requires.

Once the scan results are available you can sort by size, path, the date files were last modified, or their potential for recovery. There is also a Switch To Advanced Mode button that opens a useful panel that lets you preview files before restoring them, view basic info about them, or look at the file header, which



## Recuva

is sometimes useful for advanced troubleshooting.

Entering Advanced Mode grants access to an Options button that opens an Options pane when clicked. In the General tab, you can use View Mode to switch among the default list view, a Windows Explorer-type tree view, or a thumbnail view that is terrific for retrieving lost images. You can also switch to a different secure overwriting mode here if you want to securely delete files. The

Actions pane lets you select Deep Scan as a permanent setting and includes a handy Scan For Non-Deleted Files option if you're recovering data from a hard drive that is damaged or was reformatted.

Overall, Recuva is an easy-to-use program and comes with enough power and options that it should be the first choice for recovering files without spending any money. If it doesn't work, consider one of the commercial options reviewed in this article. ■

## DATA RECOVERY SOFTWARE AT A GLANCE

Product Name	Price	Company	Contact Info	URL	OS Compatibility	Notable Features
CBL Pro-V	\$119.99	CBL Data Recovery Technologies	(800) 551-3917	www.cbldatarecovery.com	Windows 95/ 98/ME/NT/ 2000/XP/2003/Vista/7	CBL Pro-V is a powerful data recovery tool; scans take longer than is typical but are extremely thorough.
Filerecovery 2011 Professional	\$99.95 for one-year license	LC Technology	(866) 603-2195	www.lc-tech.com	Windows 2000/2003/ XP/Vista/7	This software has a straight-forward interface and lets you easily switch to a thumbnail view, which is perfect for recovering images or PDF files.
Pandora Recovery	Free	Pandora Corp.	Online form	www.pandorarecovery.com	Windows XP/2000/ 2003/Vista/7	Quick and deep scan options give you flexibility when you search for deleted files.
Recuva	Free	Piriform	Online form	www.piriform.com	Windows XP/2000/Vista/7	Recuva is easy to use, has a terrific interface and provides thorough searches..

## Galaxy MDT X4 GeForce 210

\$129.99 | Galaxy  
(877) 253-5841 | [www.galaxytechus.com](http://www.galaxytechus.com)

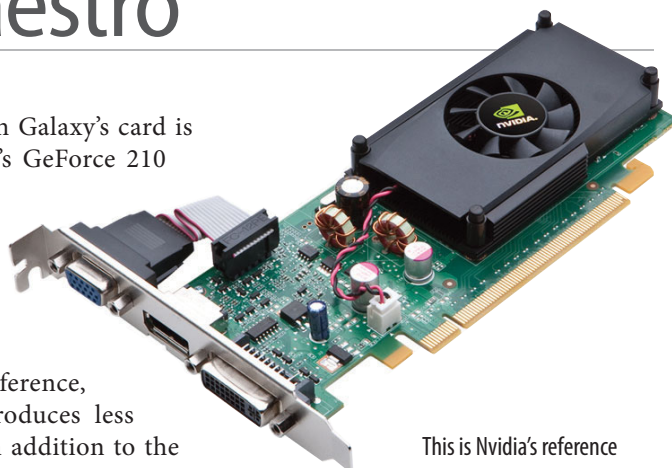
## A Multi-Monitor Maestro

**M**ulti-monitor computing is an obvious way to boost productivity in nearly any business application. Adding a second monitor and extending the Desktop across the two displays lets you group tasks, perform more functions simultaneously, and absorb more information at a glance. But adding a third and fourth monitor? Assuming you have the physical desk space, the sky's the limit. With Galaxy's MDT X4 GeForce 210 graphics card, up to quad-monitor computing is not only more attractive than ever, it's also incredibly affordable.

As the GPU (graphics processing unit) manufacturer, Nvidia created the design for the GeForce 210 that powers this graphics card. It also manufactured the chip and put together a finished graphics card, with memory chips, display outputs, a heatsink, and power connectors. That card, called a reference design, is not what we're talking about here. Galaxy, as an add-in-board manufacturer, buys the GPUs from Nvidia and supplies everything else, often taking the opportunity to rearrange traces (wires), resize the printed circuit board, choose different materials for the cooler, and install different connectors. If you think of a reference design as a blueprint for GeForce 210 graphics cards, you can see what an add-in-board manufacturer such as Galaxy was thinking by noting the changes.

The core clock on Galaxy's card is the same as Nvidia's GeForce 210 reference design, 589MHz, but Galaxy installed 1GB of 400MHz DDR2 memory that runs 100MHz slower than the reference, and as a result, produces less heat. This tweak, in addition to the use of a full-height printed circuit board, enables Galaxy to replace the tiny fan that Nvidia uses to cool the GPU on the reference design with a passive heatsink. This means you can add one or more of these cards to systems around the office and they'll have zero impact on system noise. In fact, if you're replacing another discrete graphics card with onboard fans, you'll decrease overall system noise when you install the Galaxy MDT X4.

Another feature this card has (that the reference design does not) is a pair of IDT's (Integrated Device Technology) ViewXpand Multi-Monitor controller chips, which are the secret sauce for making this card output to up to four monitors. These two chips working in concert also let you configure all four monitors as a single large display, with the help of the bundled WinSplit Revolution Desktop utility. The card is also very compact, taking up just a single expansion port on the back panel of the tower. The two white ports on the backplane look

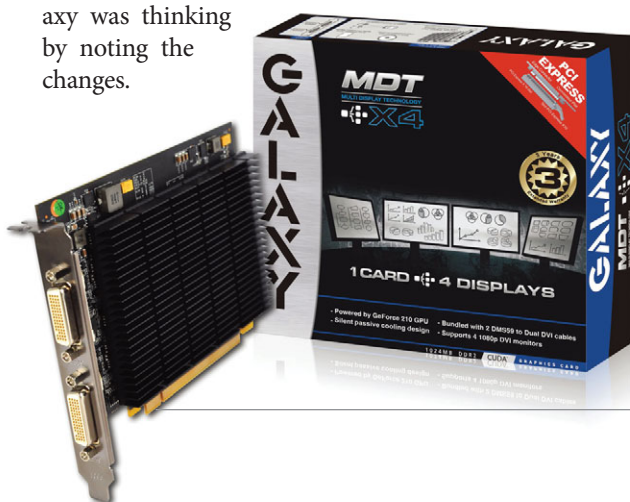


This is Nvidia's reference design for the GeForce 210.

like DVI (Digital Visual Interface) ports at first glance, but they're really DMS-59 ports. Bundled with this card are a pair of DMS-59 adapters that split the signal between a pair of DVI outputs. A three-year warranty also adds peace of mind.

Thanks to the 16 CUDA (Compute Unified Device Architecture) cores, this card has the horsepower to support a maximum resolution of 1,920 x 1,200 on four DVI monitors. Although you can't run VGA (Video Graphics Array) monitors on this card, you can run up to four 1080p HDTVs (using DVI-to-HDMI [High-Definition Multimedia Interface] adapters or TVs with native DVI inputs) or any combination of TVs and DVI monitors.

Galaxy did not design this low-power graphics card with gamers in mind. Instead, users of this graphics card are looking to expand their visual workspace for Web browsing, documents and spreadsheets, and other 2D workloads. As such we found setup and use extremely easy. In a matter of minutes, we were running. If more monitor real estate is something you want, then Galaxy's MDT X4 video card is an affordable way to get there. ■



Galaxy's MDT X4 was built for multi-monitor computing.



Teambox

# Online Collaboration

 Free-\$99 per month | Teambox  
 (415) 343-5411 | www.teambox.com

## Online Service

Small and home business owners looking for collaboration/file sharing/project management tools have a lot to choose from these days. Some are useful. Others lack the breadth of features or integration to be really valuable, or they require a lot of time and effort to get moving. We think a lot of small and home business users will find Teambox helpful.

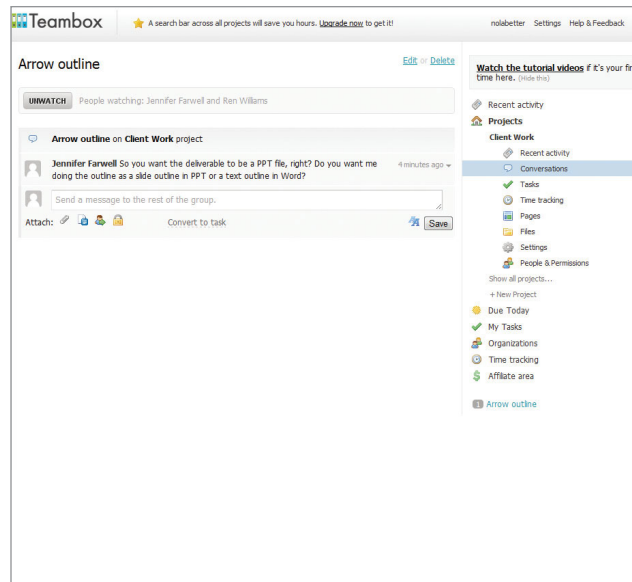
On the plus side, it is a Web-based SaaS (software as a service) product that you can have up and running in minutes. It also integrates beautifully with a bevy of online services. It can connect with your Facebook, LinkedIn, and Twitter profiles, for example, and it can link to your Google account (email, calendar, documents, and more).

After you create an account (free for up to three projects), you're prompted to create your first project, create a company and assign it to the project, and invite others to join Teambox and participate in the project. (You can work in an ivory tower if you wish, but as you'll see, Teambox is designed for teams.)

## Collaboration Central

Teambox positions itself as "joining social collaboration tools with online project management," and in the collaboration area, it really shines. The interface has a social-media-style look with a What Are You Working On? pane at the top.

If you post a comment there, Teambox will turn your comment into an untitled conversation and prompt you to either send it to specific team members or make it available to everyone on the team. (You can add a title later if you wish.) Optionally, you can click the Conversations icon



**Key Features:** Teambox is an online collaboration service that integrates with the online services you already use. It's a handy tool.

on the right-hand dashboard to start a new conversation.

Teambox can send conversations and comments to users via email, and they can respond to them that way, as well. We think this feature will be invaluable to those who live by email and don't want to be hooked up to Teambox all day.

## Business Essentials

Teambox supports file sharing (150MB maximum) and it will automatically archive uploaded files for you and associate them with that project. (Teambox backs up your entire account, online.) You can also create HTML (Hypertext Markup Language) pages for your projects and share them with team members or the world. (Teambox makes basic formatting very easy.)

Teambox also supports task creation and assignment. From the dashboard, you can create one or more task lists and then generate and assign tasks

with due dates. You can also create tasks directly from comments, which integrates them with the corresponding conversation. If you assign start and end dates to your tasks, Teambox will add them to a Gantt chart and an internal calendar. (Link to Google and it will place your other calendar items there, as well.)

The dashboard is really project central, with icons that let you manage projects and their related components, tasks, organizations, files and pages. You can also create a news feed for your project here, tweak settings, view and filter time tracking, and more.

Teambox hits a couple minor snags along the way, in our opinion. Time tracking could be handled more elegantly, and a couple of functions are two-step processes that we think could be handled with a single display. All considered, it is a nifty little platform that just about anyone would find useful. Upgrade to the paid version and you can perform global searches, as well. ■

FreshBooks

Free-\$39.95 per month | FreshBooks  
(866) 303-6061 | www.freshbooks.com

# Billing & Bookkeeping

## Online Service

Whether you are a one-man operation or a small business, you should check out FreshBooks. Free for up to three customers, this elegantly designed, easy to use Web-based SaaS (software as a service) product makes it easy to manage and track both invoices and expenses. When you initially sign up and create your account, FreshBooks even auto-generates and mails you a sample invoice to show you just how well its system works.

FreshBooks integrates or connects with dozens of complementing products. It lets you import data from other sources (a must-have feature if you've been using another solution) or start from scratch. It also generates invoices and automatically sends them out via email or regular mail from the information you provide.

## End To End

FreshBooks makes everything so accessible that you will find yourself exploring new avenues for financial recordkeeping. You can start by generating estimates or tracking the time you spend on projects and then convert either into an invoice with ease. (FreshBooks provides a project and task-specific timer for more accurate tracking of your time.) You can also track expenses and either include them on invoices or back them out to calculate your bottom line.

From start to finish, you manage everything from a single interface with tabs such as People (clients), Invoices, and Estimates. You can customize this interface by hiding features you are not using. You can also give your employees, clients, and contractors access to specific information.

When you're ready to review reports, FreshBooks is waiting, with nearly 20

**Key Features:** FreshBooks is an online service that makes billing and bookkeeping a snap. It has useful features for handling late-payment reminders and similar tasks.

commonly requested bookkeeping, invoicing and timekeeping reports. We'd like to see more flexibility in report generation, but the product definitely has all the major bases covered.

## Money Matters

Of course, the heart of any accounting service is invoicing and FreshBooks gives you options there, as well. The Invoicing tab automatically displays a list of recent invoices and their statuses. There are tabs for creating and viewing recurring invoices (FreshBooks automatically processes these), payment history and more. FreshBooks also helps you leverage the power of email, providing editable templates for new invoices, late

payment reminders and similar communications. FreshBooks offers two template options for invoices as well. Invoice templates are not editable, but they do allow some customization. They can include your logo, notes for clients, one-off invoice terms, and text under the logo.

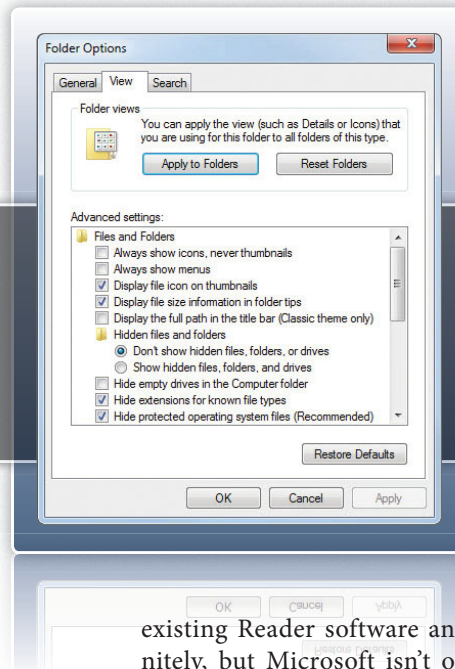
FreshBooks provides a section (under Invoices) for payable invoices, but these are actually links to invoices you receive through FreshBooks. FreshBooks categorizes invoices from vendors that do not come through its system as expenses, and you enter them under that tab. You can convert a FreshBooks vendor invoice to an expense with a single click, which is a fast and easy way to keep everything straight. ■



# Windows

## News, Views & Tips

To make removable storage drives visible even when no media is inserted, clear the Hide Empty Drives In The Computer Folder setting.



## MICROSOFT NEWS

### Microsoft Addresses Privacy Concerns Regarding Geolocation Service

Stanford University security researcher Elie Bursztein recently discovered an ability to use Microsoft's geolocation database, without any restrictions, to track where a Windows laptop has been based on which Wi-Fi networks it recently connected to. To demonstrate the privacy implications, Bursztein set up a Web page where a user could enter his own computer's Wi-Fi MAC (Media Access Control) address to see if it appeared in Microsoft's database (which is accessible through the company's Live.com services).

Upon learning of Bursztein's findings, Microsoft announced changes to its geolocation service that it says addresses the issue by filtering and validating location requests.

### Microsoft Closes The Book On Reader Software

Microsoft has announced the discontinuation of Microsoft Reader, its ebook software that debuted in 2000. New content in Reader's LIT format will stop being sold on Nov. 8, 2011, and the Reader software itself will no longer be available for download after Aug. 30, 2012. Customers can continue to use their

existing Reader software and LIT materials indefinitely, but Microsoft isn't offering any way to migrate to another ebook application. ■

## WINDOWS TIPS

### Make Removable Media Drives Always Visible

If your Windows 7 PC is equipped with a reader for removable storage media, such as SD (Secure Digital) or CF (Compact Flash) cards, you've probably noticed the drive(s) only show up under Windows Explorer's Computer heading when there's a card inserted. If you'd like removable storage drives visible even when they're empty, click Start, type **folder options** in the Search field, and press ENTER. Click the View tab, and under Advanced Settings, uncheck the Hide Empty Drives In The Computer Folder option.

Note that this setting doesn't have any effect on CD/DVD drives or external hard/flash memory drives; the former will always appear whether or not a disc is inserted, and the latter will not appear unless they're physically connected to the PC.

### Free Utilities To Convert & View Office Files

Although Microsoft Office has a ubiquitous presence in offices large and small, there may be occasions when you need to open a file but can't, either because it was



created with a newer version of Office than yours, or because you're missing a particular Office application.

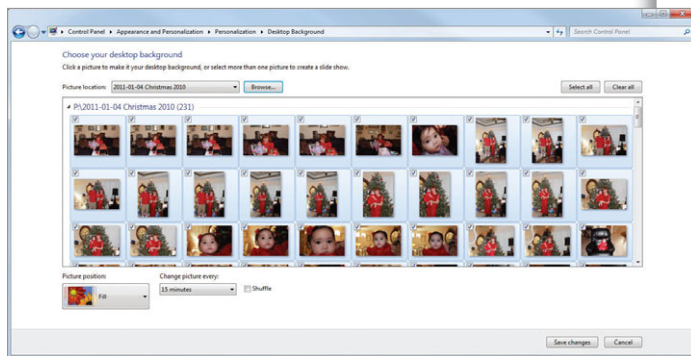
For such situations, Microsoft offers a variety of free converter and viewer utilities. The converters allow you to open files created in a different version of Office, while the viewers let you open a file without even having the program that created it. To find the downloads, visit [tinyurl.com/2dsg8hd](http://tinyurl.com/2dsg8hd).

## Make Your Own Windows 7 Theme

Win7 offers many interesting visual themes to choose from, but if you'd prefer to look at personal photos instead, you can use them to create your own custom theme.

To create a new theme, right-click an empty part of the Desktop and choose Personalize. Next, click Desktop Background and use the Browse button to find the folder containing the photos you want to use. (If you want your theme to include photos from different locations, copy them into a single folder in advance, because you can't select photos from multiple folders.)

All the pictures in the folder you choose will be checked by default, so be sure to clear any that you don't want to include. Then adjust the picture position, select how often you want the picture to change, or select the shuffle settings as desired. Click the Save Changes button. You'll now see



You can create your own Win7 theme using the images of your choice.

Unsaved Theme in the upper-left corner under My Theme; right-click it and choose Save Theme.

If you'd like to share your new theme, right-click it again and choose Save Theme For Sharing to create a Themepack file that you can send to another Win7 user. Fair warning—depending on the quality and number of photos you include, the file will likely be too big to send via email. ■

## WINDOWS NEWS

### New Windows 8 Details Unveiled

Microsoft has begun shedding some light on what to expect in its forthcoming Windows 8 operating system.

Two noteworthy revelations about the next version of Windows are that it will include an app store, as well as a major overhaul of the file/folder copy user interface. For example, transfers will have the ability to be paused, status for multiple copy operations will be shown in a single window, and graphs will report transfer speeds.

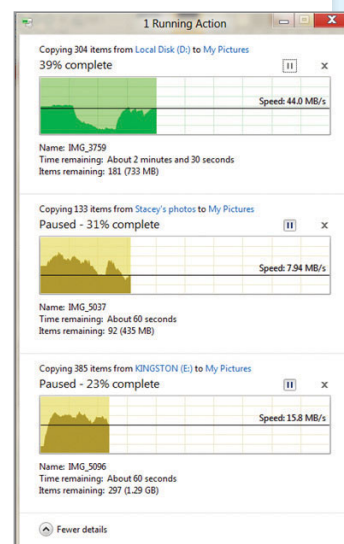
Windows 8 will also offer native support for USB 3.0, also known as “Super-Speed USB.” Aside from USB 3.0's tenfold performance increase over USB 2.0 (5Gbps vs. 480Mbps), Microsoft cites the benefit of the newer standard's improved power management, which can yield longer battery life. The company expects all new PCs to include USB 3.0 ports by 2015 and over 2 billion USB 3.0 devices to be sold that year.

There are about 35 feature teams, each consisting of between 25 and 40 developers, working on various areas of Windows 8, including Device Connectivity; Performance; and Reliability, Security, and Privacy.

### Windows Phone “Mango” Gets Finalized

The next version of Windows Phone 7, better known as “Mango,” has been completed and released to manufacturing for phone makers and wireless carriers. Mango will debut on a new crop of handsets to be released this fall, and will also be available as a free upgrade for existing Windows Phone owners.

Among the new features in Mango are an email “conversation view” that makes it easier to navigate long email discussions; a Threads feature that brings together text, IM, and Facebook chats all into one conversation; app multitasking; and a new Web browser based on Internet Explorer 9. ■



Windows 8 will monitor multiple file/folder copy tasks in a single window, provide speed graphs, and let you pause transfers.



# Windows Live SkyDrive

## Clean & Intuitive Cloud Storage

Microsoft recently updated and re-launched Windows Live SkyDrive, a free cloud-based service that lets users upload and store up to 25GB of documents, photos, and other files. It's designed as an online portal for creating and/or sharing Word, Excel, PowerPoint, and OneNote files, but it can also do much more than that. We'll tell you about the new features Microsoft added to SkyDrive, how to sign up for the service, and a few hints and tips for how to use it.

### What's New?

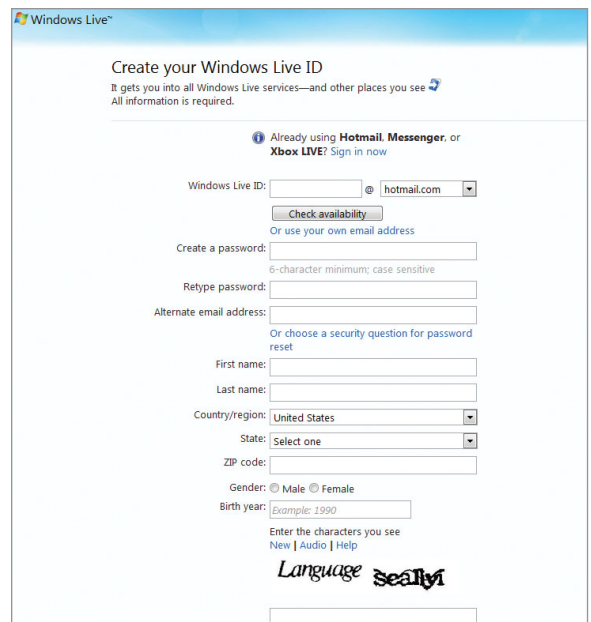
Some of the changes Microsoft made to Windows Live SkyDrive are simply cosmetic and meant to give the service a much cleaner and user-friendly look. But Microsoft also made specific software changes in order to optimize SkyDrive for the newest Web browsers and added extra features that make it much more valuable to users.

For instance, Microsoft made the entire experience faster. Whether you're uploading files or viewing photos and videos online, SkyDrive has been streamlined and designed to be a much more fluid and intuitive process. All of your files are now displayed in one place so you don't have to search through multiple folders to find them. SkyDrive also works better with mobile devices and mobile Web browsers. And if you have Internet Explorer 9, Microsoft recommends that you pin the SkyDrive Web site to your Taskbar so it's easier to access the service.

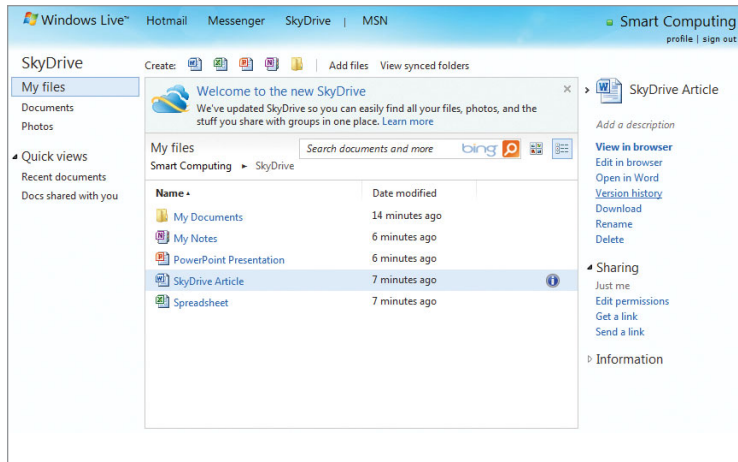
Microsoft also removed ads from the service to enhance the overall experience by making it less cluttered and added a new pane of file information (that we'll tell you about later). SkyDrive has gone through many iterations so far, from beta testing to what it is now, and the service looks to continue its evolution and improvement in coming years.



The Windows Live SkyDrive introduction screen is a great resource for new users. It shows you what you can do with the service, how to change settings, and how to get the most out of SkyDrive.



The Windows Live ID sign up screen lets you create an ID that can be used across most of Microsoft's offerings, including Hotmail, Messenger, and more. You'll need to sign up for one before you can use SkyDrive.



The main hub of SkyDrive is where you can create or upload files. Each uploaded document is shown in the My Files section. The 'i' icon on the right of each file brings up a menu with options for downloading, renaming, or deleting the file.

## Sign Up & Setup

The first thing you should do is visit the welcome and introduction page for SkyDrive ([explore.live.com/windows-live-skydrive](http://explore.live.com/windows-live-skydrive)). From here, you can check out everything the service has to offer and decide whether it will work for you or your company. You can access tutorials, overviews, and other articles from here that will show you the main features of the service and how to use it.

But before you can start using SkyDrive, you need to make sure you have a Windows Live ID. If you already have one, you can click Sign In in the upper-right corner. If you don't have a Windows Live ID, click Get SkyDrive—It's Free, and it'll take you to a Sign Up screen where you can register for an account. This ID will also give you access to Hotmail, Messenger, and other applications in addition to SkyDrive.

Once you're signed up, it should automatically take you to the main hub of SkyDrive. For future reference, you can access the site by going back to the welcome site or you can just go to [skydrive.live.com](http://skydrive.live.com) directly and sign in using your Windows Live ID.

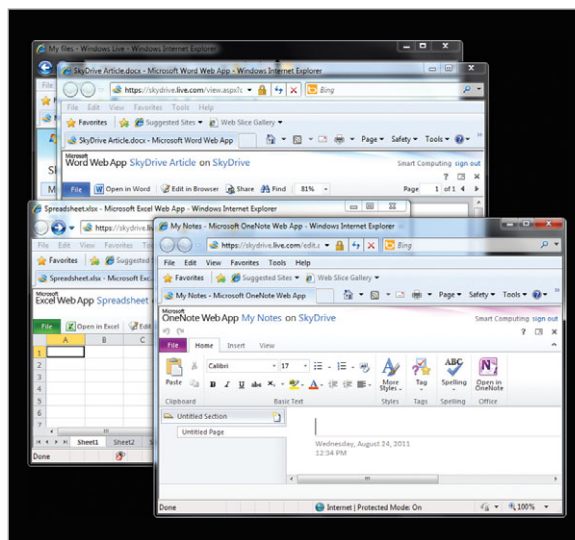
## Upload Files & Create Documents

When you reach the My Files section of SkyDrive, you'll notice icons next to Create for Word, Excel, PowerPoint, OneNote, and a folder. And to the right of those icons is an Add Files link. Click it to start the file upload process. From this screen, you can choose to create a new folder or upload files to My Documents (or to an existing folder if you had previously created one). Select one of these options, and then you'll be able to upload up to five files at a time. Note that the maximum upload size is 100MB per file, so you may not be able to load some

larger or high-quality videos and files. If you're uploading a photo, you can select whether to keep it at its original size or make it Large or Medium. Once you've chosen all the files you want to download, click Upload and when the process is finished, you'll be redirected to the My Files page or the new folder you created. (If you are using Internet Explorer with the newest version of Silverlight installed, the process is a bit different. At the same Add Files screen, you can upload as many files as you want at the same time and then click Continue instead of Upload.)

If you want to create new documents using SkyDrive, you can click any of the icons in the upper-left corner. Word, Excel, PowerPoint, and OneNote are available as Web Apps with most of the important basic features of the full Microsoft Office versions.

Click any one of the icons and on the next screen, you can name your document and choose who you want to share it with. Remember that you can always change this later. Click Save. If you chose Word, for example, the Web App will open automatically, and you'll be able to



When you choose to make a new document, it will pop up as a Web App version of the Office program. And when you open a document, you can choose to edit it in the browser or open it in Microsoft Office.

make a Word document online. You can also choose to click Open In Word, as long as you have Microsoft Word installed on your computer, and work on the file offline. This process works the same way for any other type of document, and all of the Web Apps feature integration with their offline counterparts.



## Share Files & Change Permissions

The ability to share files and collaborate with co-workers is one of the biggest highlights of using SkyDrive, but you may not always want to open up a document to the public. That's where SkyDrive Groups and permissions come in. In the blue bar above your uploaded files, hover your mouse pointer over SkyDrive, select Groups from the drop-down menu, and then click Create A Group. This is where you can name your group, create a group email address, and finally add contacts to the group. Now you can choose to email the group, invite more people, or upload and create documents for the group to collaborate on. Every file that is uploaded into the group's file section will be accessible to each member. You can also create and share photo albums and videos with your group using the Group SkyDrive section of the site.

If you ever need to change permissions for who you want to share files with, click the blue 'i' icon next to a document. This will open an information pane that not only lets you change permissions but also choose to edit the file in your browser or in the Office program, download it, rename it, or delete it. You can also click Information to see when a file was added and by whom. In your personal My Files section, you can click Edit Permissions (under the Sharing heading) to choose to share the file with everyone, a select group of people, or privately for yourself only. You can also add people individually by name or email address. If you click Edit Permissions on a document in your group's files you can choose whether to give members permission to view or edit. You can edit permissions at any time to ensure that files are only shared with the people you designate.

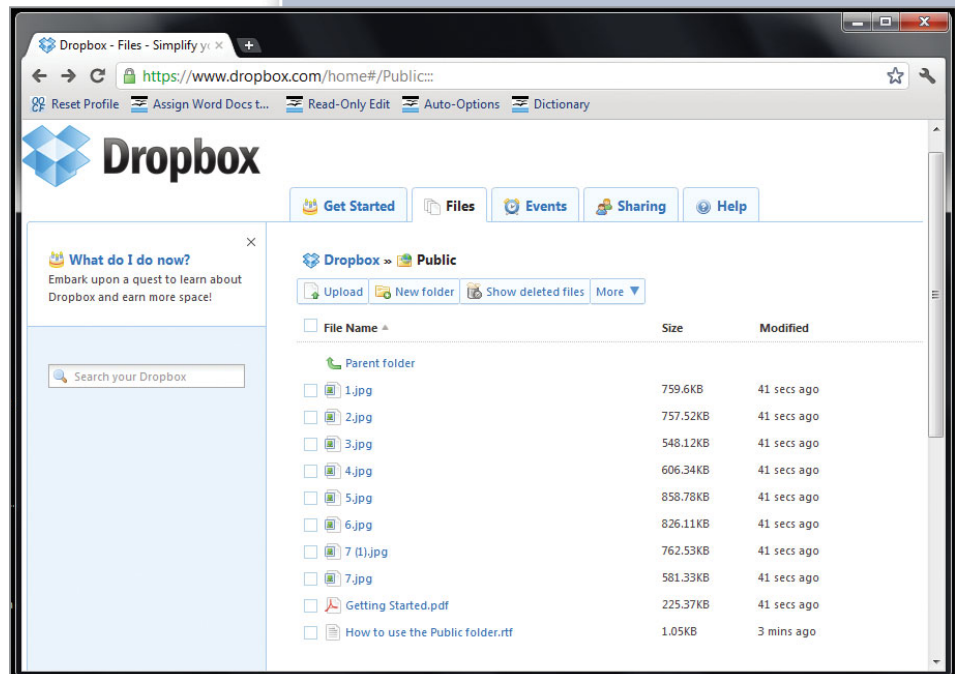
## Take Advantage Of The Cloud

Windows Live SkyDrive is a great service for small and home offices. It's a free alternative to some of the more expensive cloud offerings on the market, and the 25GB capacity should be enough to store a multitude of documents and files. Taking advantage of the cloud in this way, to upload, create, and edit documents regardless of location, is one way to make sure your workforce is always connected and collaborative. ■

## Cloud Storage Alternatives

**M**any companies are offering cloud storage services. Some of them are free, and others charge an annual or monthly fee. There are a variety of features and maximum capacities to choose from, so it comes down to whether you need an individual or business-wide storage solution.

One such alternative is Dropbox ([www.dropbox.com](http://www.dropbox.com)). Dropbox is available as an online client that you download to your computer. It's also available as a free app for the iPhone



Dropbox is a free service, with other premium versions available, that lets you upload and share multiple file types from your computer, smartphone, or tablet. You can choose to keep files private or share them with anyone to which you give permission.

and iPad and BlackBerry and Android devices. The service lets you upload documents, photos, videos, and other types of file by simply clicking and dragging them into the Dropbox folder installed on your computer. As long as you have an Internet connection, the contents of the folder are then uploaded automatically to the Dropbox Web site.

The free Basic version of the service has a maximum storage capacity of 2GB, but there is also a Pro 50GB option for \$9.99 per month or \$99 per year; a Pro 100GB version for \$19.99 per month or \$199 per year; and an account type called Teams, which is a 350GB or higher version of the service designed for SOHO, small businesses, and other larger companies.

# Windows 8: A Preview

## A Look Inside The Upcoming Windows Transformation



In place of the traditional Windows Desktop, Windows 8 will feature a highly simplified graphical user interface that provides quick, easy access to applications and other resources.

approach its future desktop OS with a strikingly different mindset.

“With iDevices, smartphones, and tablets pushing PC and laptops out the door, Microsoft needs some solid, universal features through the Windows 8 OS offering to entice users to stay with a client-based operating system,” Meikle says.

With each coming Windows version, Microsoft inevitably promises huge changes bound to transform the operating system concept as we know it. Despite these promises, the core appearance of the Windows user interface has remained relatively unchanged for 16 years, dating back to the emergence of Windows 95. However, with the next version of Windows, code-named Windows 8, Microsoft will finally come through on that game-changing promise.

Early peeks released by Microsoft of the internal Windows 8 builds show a drastically overhauled interface that could leave users looking for the ubiquitous Start button. Instead of the standard Desktop that has a Taskbar and Start button, Windows 8 boasts a tile-based interface reminiscent of those used in tablets and smartphones. This and other changes foreshadow a Windows future far different from anything we’ve seen and experienced up to now.

Users of tablets and smartphones have grown accustomed to touch-friendly interfaces that rely on icons or tiles for quick navigation to apps and utilities. For Windows 8, Microsoft is taking a page from its own Windows Phone platform through the use of tiles that replace the conventional Windows Desktop. These “live tiles” not only provide access to apps and other tools, but they also automatically update their appearance based on the content within the app or utility. For example, the investment tile will show an updated daily tally of your investments, so users can get a quick glimpse via the tile instead of actually opening the investment app.

This concept borrows heavily from cutting-edge Web technologies, including HTML5 (Hypertext Markup Language), but it doesn’t mean that Windows 8 is a pure cloud-based OS that’s completely ingrained with the Web. Instead, it will allow for full-screen, vibrant apps that are geared for

### New Look, New Functions

According to Mike Meikle, CEO of The Hawthorne Group ([www.mikemeikle.com](http://www.mikemeikle.com)), Microsoft has encountered a barrage of competition in the OS field since the release of Windows Vista. Cloud computing, VDI (virtual desktop infrastructure) options, and alternative operating systems are now gaining serious momentum across a wide range of hardware platforms. Along with mobility, which also has had a major impact on the overall IT market in recent years, these changes have prompted Microsoft to



Cloud computing, alternative operating systems, and other competition in recent years has prompted big changes on the Windows front, says Mike Meikle, CEO of The Hawthorne Group.



touch but also compatible with a traditional mouse and keyboard. This underlying Web concept will also lead to a much speedier version of Windows that sees apps opening in an instant, rather than the multiple seconds required by many apps on Windows 7. Navigation between open apps will be similarly quick, requiring a simple swipe (if using touch) to move between them. Of course, this is similar to app behavior found on today's smartphones and tablets.

Meikle notes that Windows 8 will also likely include other innovative features destined to further distance the OS from its predecessors. For example, Windows 8 looks to include out-of-the-box virtualization support to allow users to set up multiple virtual machines on a single device, in turn providing backward-compatibility and compartmentalization of specific applications. He also says this bundled technology could support Hyper-V 3.0, which will allow virtual machines to access up to 16TB (terabytes) of storage and multiple processors (or cores).

"Some other features Microsoft is expected to package in with Windows 8 are much faster booting and run times, facial recognition capability, gestural interface support, new file system technology, and touch-screen keyboard support [for tablets].

Also on tap for Windows 8 is the inclusion of Windows InTune 2012, an upcoming version of Microsoft's cloud-based PC and information security management suite. And, by subscribing to Windows InTune 2012 (\$11 per PC per month), business users likely will have Windows 8 upgrade benefits when the new OS is released.

### Assessing The Changes

For current Windows users, the changes coming in Windows 8 could appear rather daunting, considering they reflect more of a tablet-like experience than that of a desktop. Patrick Gray, president of Prevoyance Group ([www.prevoyancegroup.com](http://www.prevoyancegroup.com)), says that the OS could prove challenging for Microsoft as it seeks to build on the success of Windows 7.

"[Microsoft is] focusing on making [Windows 8] perform two fairly diverse roles: that of a traditional desktop system and as a media/content consumption-centric device. In the best case, Windows 8 could take the best of both worlds, combined with Microsoft's



Windows 8 could prove to be a unique, compelling experience if Microsoft plays its cards correctly, according to Patrick Gray, president of Prevoyance Group.

## Windows Wish List

Microsoft has already unveiled big changes coming to Windows 8, but considering the operating system likely won't be released until late next year, it remains to be seen how many changes will actually appear in the final version. Jason Wisdom, president of Wisdom Consulting ([www.jasonwisdom.com](http://www.jasonwisdom.com)), offers the following wish list for this upcoming Windows version.

**SIMPLIFY.** "Windows 7 was leagues better than Vista, but the changes were top-down—in other words, appearance first—and then went deep only when necessary. What Microsoft needs to do is rewrite their OS from the bottom up [and] rewrite the core features of Windows 95 or 3.11 that still remain."

**BETTER VIRTUAL OPTIONS.** "Whether it's controlling other computers from this one, or controlling this computer from other ones, complicated third-party software should not be needed."

**APP STORE.** "We might be dreaming, but if [Microsoft is] forward-thinking, this would really be a smart idea."

tablet PC experience, and produce something really unique and compelling. In the worse case, we'll have a schizophrenic OS that does nothing well," Gray says.

While tablets continue to forge a formidable spot in the business market due to their ability to handle a wide range of tasks, the limitations of the underlying software are starting to emerge, Gray says. This presents a great opportunity for Microsoft with Windows 8, but Gray acknowledges that the company will nonetheless have to satisfy a varied range of constituencies, including large companies, small businesses, home users, students, and others.

"To really differentiate, Microsoft would combine traditional desktop interaction [keyboard and mouse] with touch and pen input, allowing the OS to adapt to the current situation seamlessly," he adds. "I'd also like to see Microsoft leverage its collaboration and cloud technologies so I can have my relevant emails, contacts, and projects on whatever Microsoft device happens to be in my pocket at the moment." ■



Simplification and better virtual options are two improvements Microsoft needs to make to improve its flagship operating system, according to Jason Wisdom, president of Wisdom Consulting.

# Business Tech: 4G

## Mobile Broadband Steps On The Gas

There's good reason why many phones, tablets, and other mobile devices these days support a very non-mobile technology: Wi-Fi. In many parts of the U.S., as in many parts of the world, the 802.11b/g/n wireless networking standards simply offer better performance than nearby cell towers. Using Wi-Fi to tap into a business's or home's broadband Internet connection accelerates the downloads, uploads, streaming, and VoIP (Voice over Internet Protocol) that smartphones and tablets can do so well—as long as they're not constrained by outdated, congested 3G technology.

Of course, the problem with Wi-Fi is the fact that your fast, local connection drops back to your wireless broadband plan as soon as you leave your company's parking lot. If you're still using 3G wireless broadband, you're missing out on a lot of the capabilities that current mobile devices have to offer, such as video phoning. Looked at another way, there are resources being underused, and that could mean missed opportunities for your business.

The replacement for 3G is, as you might guess, 4G. Short for fourth generation, 4G is the name of a collection of faster wireless standards for mobile broadband. It's also a catchier name than IMT-Advanced (International Mobile Telecommunications-Advanced), which is the global network concept being developed by the ITU-R (International Telecommunication Union-Radiocommunication; [www.itu.int](http://www.itu.int)).

IMT-Advanced/4G involves a variety of technologies meant to speed up data transmissions and make them more reliable, including MIMO (multiple input/

multiple output antennas), IP packet switching, and dynamic resource usage. There's also support for IPv6 Internet addresses, as well as for seamless coverage as the user travels between different types of cell networks.

### 4G Today

Today, the major carriers advertise several wireless broadband technologies as "4G." Depending on who's doing the talking, 4G may be LTE (Long Term Evolution), WiMAX (Worldwide Interoperability for Microwave Access; 802.16), and/or HSPA+ (Evolved High-Speed Packet Access).

Data rates average in the Mbps single digits, for the most part. Specifically, AT&T says that its HSPA+, an improvement on the 3G-era HSPA network technology, reaches 6Mbps. Sprint says that its WiMAX 4G system offers 3 to 6Mbps (megabits per second) speeds, while Verizon claims 5 to 12Mbps for its 4G LTE network. Finally, T-Mobile says that its 4G HSPA+ offering averages almost 10Mbps in download speeds with a 21Mbps peak transfer rate. Footnotes on



In this AT&T coverage map, you can see how its fastest 4G coverage (the dark blue areas) is spreading out from the major markets.

the company's site furthermore mention an augmented HSPA+ network with 42Mbps peak speeds in limited areas.

These numbers are a far cry from the ITU-R's initial goals for 4G, let alone the 128Mbps and 100Mbps theoretical maximums of current WiMAX and LTE technologies, respectively. Still, they're definite improvements over the aging 3G, providing more speed and less latency. (Note that network speeds will drop when you're moving quickly, such as in a car or on mass transit.)

### Get It

In order to get 4G, you'll need a phone, tablet, or other device that supports it. If your current phone or device is capable of using the 4G network of your current carrier, upgrading may be as easy as turning on the 4G radio in your phone's settings. You might also have to run an update on your device for full compatibility.

If your tablet, phone, or other device isn't compatible with 4G—or at least the type of 4G offered in your area—you'll need to change to a new mobile device. The easiest path here is to make the move to the phone or device offered by your local 4G carrier of choice.

### Giga-wow

Future plans for 4G technology include a 1Gbps (gigabits per second) evolution of LTE called LTE Advanced, as well as a 1Gbps version of WiMAX called WirelessMAN-Advanced or 802.16m (WiMAX 2). For perspective, those are faster than the wired networks in many homes and businesses. It truly is an exciting time in mobile gadgetry. ■



# Co-Working Offices

## A Desk & Community

**P**lying a craft outside of a traditional office setting for many small business owners, freelancers, and other independent workers means the ability to play by their own rules. Some of these same workers, however, find that going it alone also means less of the collaboration, friendships, and sources of motivation and inspiration they often found in an office environment. Enter shared offices, a relatively new type of office arrangement that targets workers who prefer working outside of an office but also crave human contact.

Across the country, shared offices (also called co-working spaces) are housing independently employed professionals from various fields in buildings, houses, apartments, and even corporate campuses where downsizing has left its mark and companies try to recoup expenses by leasing empty desks and offices. Typical amenities include a desk and conference room space, coffee, printing services, Internet access, and parking, all of which users can lease per day, week, or month. Another significant perk is working in close proximity to intelligent self-starters looking to collaborate. The following details what co-working offices are and how to find them.

### Filling The Void

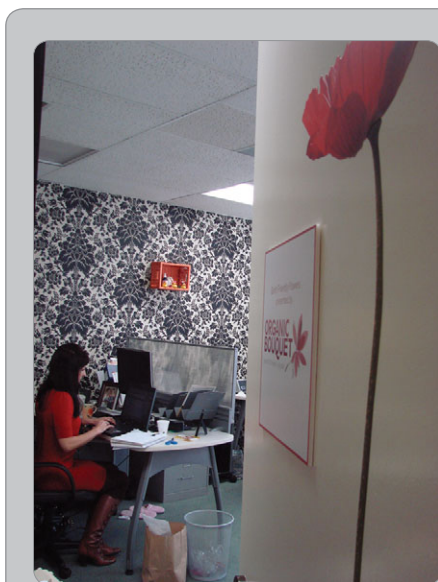
The co-working movement is taking hold, particularly in tech-rich areas such as Austin, Chicago, San Francisco, and New York City where tech-savvy entrepreneurs, business collaborators, two-person startups, freelancers, software

developers, graphic artists, writers, consultants, and others are seeking a place to work outside of the home.

Sandbox Suites ([www.sandboxsuites.com](http://www.sandboxsuites.com)) operates shared offices in San Francisco and Berkeley for business owners, freelancers, telecommuters, and

expand their network, and even collaborate on projects. As entrepreneurship can be an unstable journey, they really appreciate flexibility that co-working offers with its daily and monthly options," he says.

Jeremy Neuner co-founded NextSpace



Sandbox Suites operates three shared office locations in California for business owners, freelancers, and other independent workers.

other independent workers. CEO Roman Gelfer says, "Co-working is growing at a rapid pace and will continue to grow worldwide because its model is perfectly suited for the modern worker whose office consists of a laptop and a phone but who doesn't lose sight of the importance of human interaction."

Work-wise, Gelfer says Sandbox Suites' members report their productivity increases 30% on average when using a shared office. "People want a space that looks professional, feels comfortable, and inspires creative thinking. They want to be able to meet other co-workers to bounce ideas off of,

(nextspace.us), operator of shared offices in Santa Cruz, San Francisco, Los Angeles, and San Jose. Its users have included mobile app developers, programmers, independent contractors, small business owners, consultants, writers, social media employees, accountants, attorneys, project managers, book keepers, traditional Silicon Valley startups, a comic, and about anyone else "who wants someplace else to work besides home or a coffee shop," says Neuner.

Co-working is gaining popularity, he says, partially due to technology arming people with laptops, smartphones, and tablets to work from anywhere.

Another factor is large companies looking to downsize their real estate overhead by “sending employees out into the world, so to speak.” Additionally, more professionals are staying with companies for shorter times—18, 24, or 36 months, for example—before moving on. “People are tending not to stay at companies; they’re kind of managing their own careers, and as they realize they can do that rather than be a W2 employee, they’re sort of the rise of the 1099, or the rise of the contractors,” Neuner says.

Still, he says, people like and need work-related social side benefits, such as meeting friends and possibly a spouse, playing on the company softball team, holiday parties, etc. “That’s part of what’s creating a rise in co-working,” Neuner says. “I think it will continue to grow.”

## Find A Space

For those interested in trying a co-working space, several services are available to uncover open desks. Desktimes (desktimesapp.com), for example, is a Web-based service that helps “people find, share, and manage extra space” currently in Austin, Chicago, and New York. In addition to plenty of top-notch photos of available spaces, Desktimes provides individual Web pages for each space and offers users the ability to list their available spaces. Desktimes founder Sam Rosen also operates The COOP (coworkchicago.com), a Chicago-based shared office.

Office Genie (www.officegenie.co.uk), meanwhile, is a free service that bills itself as the “UK’s biggest online marketplace

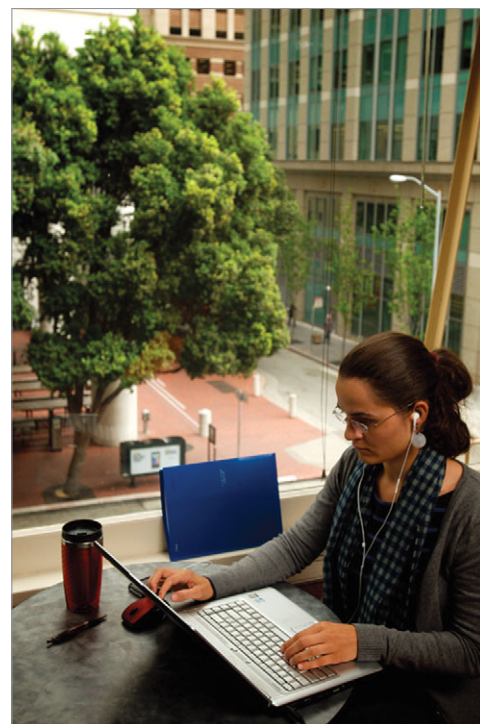
for spare desk space in shared offices.” Office Genie had roughly 2,330 spare desks listed on its Web site as of mid-August. For each space, Office Genie includes photos; pricing; transportation, and map details; and options to request more information and save spaces for later reference.

Ciaran Dunne, Office Genie co-owner, says, “In the UK, co-working is particularly the realm of the creative sectors—marketing agencies, Web designers and developers, coders, media buyers, journalists, even architects. These sectors are characterized by lots of small companies and freelancers, and these guys aren’t too worried by the thought of sharing an office. In fact, it makes a lot of sense in many cases. For example, there’s a lot to be gained by an advertising guy sitting next to a graphic designer or a copywriter,” Dunne says.

Office Genie recently polled its users, finding that “office buzz,” a professional working environment, and “getting out of the house” were top reasons people were drawn to working in a shared office space. “Surprisingly, the cost was low down the list. I think the implication is that people see co-working as an alternative to home working, rather than as an alternative to getting a conventional office,” says Dunne.

Other services include Loosecubes (www.loosecubes.com), which lets users search among 1,000-plus spaces in dozens of U.S. and foreign cities and then apply with a respective space’s host for approval. Features include Facebook integration that provides recommendations on spaces based on users’ various connections. LiquidSpace (www.liquid-space.com), meanwhile, offers a mobile app that provides real-time results

Desktimes provides Web-based software for finding available office space in Austin, Chicago, and New York.

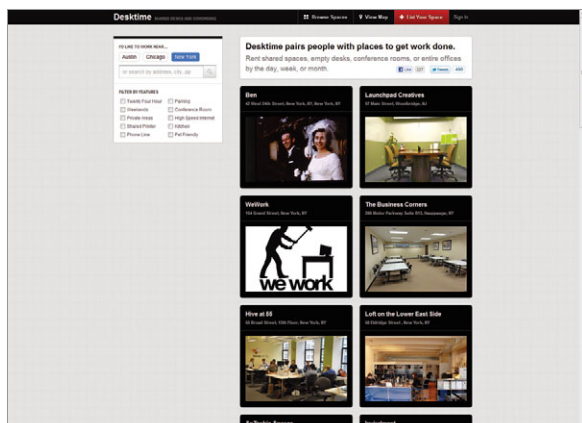


Among the events NextSpace stages for its users are brown bag lunches, happy hours, and regular speaking guests.

for shared office spaces in California, including San Francisco and Los Angeles. The app includes the ability to book spaces, view photos, use calendaring tools, and list available office space.

## Everybody Wins

Beyond the ability to “monetize spare space,” Office Genie’s Dunne says helping provide extra space to workers means building a great office atmosphere. “Having other companies in there makes the environment much less inward looking; plus, freelancers and startups tend to set a great example with their work ethic,” Dunne says. For those leasing office space, using a shared office can also result in financial opportunity. NextSpace’s Neuner cites examples of people who previously didn’t know one another meeting in a NextSpace office and ultimately forming companies together. Gelfer says beyond members exchanging ideas and news, giving advice, attending events together, and starting projects together, “people often pass on projects that they can’t do themselves to other members.” ■





# Business Cards Go Digital

Contact Exchange  
Gets An Update



**L**ike so many things that were previously restricted to paper—from résumés to maps—business cards have gone digital. In fact, any number of online services and sites now create digital business (or personal) contact “cards” for their users. Some of these are intended to be exchanged via smartphone, social networks, or other means. Others become mini-Web sites where you can promote your presence.

In the past few years, it has become increasingly possible to collect and distribute digital business cards, often using free apps and services. For the tech-savvy among us, the idea is tantalizing. No more paper to carry; no more trees to use. Just a couple of clicks and the exchange is made.

Nevertheless, not all solutions are created equal, so choosing the best one for your needs can be confusing. In

this article, we’ll explore some popular digital business card solutions and the benefits/limitations that might make you prefer one over another.

## Back To Basics

Before you explore your options, consider what you need. Do you frequently give out business cards but less frequently take them in return? Or, is the reverse true? Are the individuals with whom you exchange information sophisticated enough to handle such a tech-forward approach?

Do you want your business card to be available online, and do you want it to be discoverable by anyone? Or, optionally, do you share sensitive information

(such as cell phone numbers) that you specifically do not want the entire world to see? Not all digital business cards are designed for hand-to-hand (or phone-to-phone) exchange. Some work on the premise that you will be sharing them over the Internet or via



QR codes offer an intriguing future for business professionals who seek to share all sorts of information.

Facebook, LinkedIn, or other social media networks.

Consider your willingness to sign up for Web-based services, including startups that might not be around in a year or more. As you may have noticed, online startups are engaged in a mad dash to gain the loyalty of consumers and business professionals and not all will make the final cut.

### Codes Keep It Simple

One of the simplest solutions for the exchange of business cards (and other data) is the QR (quick response) code. You've seen these mottled black-and-white boxes popping up everywhere, even if you are not yet using them.

QR codes are two-dimensional barcodes that can hold (and share) thousands of alphanumeric characters of information, whereas barcodes can only handle 20 digits. They've been used for more than a decade in Japan (where a Toyota subsidiary invented them), so you can be confident they and the software they require are not going anywhere. QR codes are being used to provide product, movie, ticket, and other information.

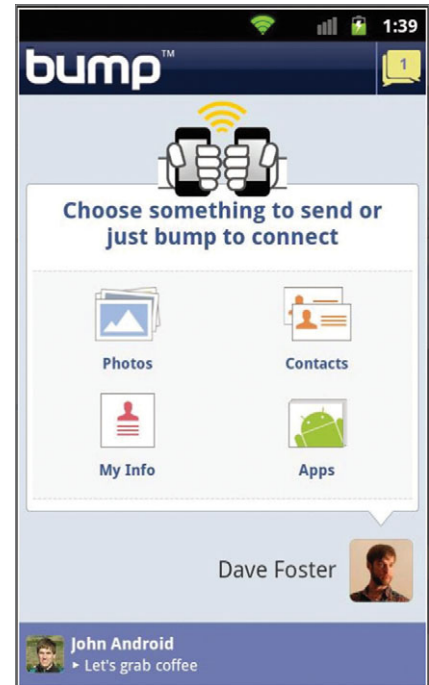
As you might imagine, they are a perfect repository for business card information. Special generator programs create QR codes, and some are built right into the reader software that also scans them. If you'd like to try out the technology online, visit [qrcode.kaywa.com](http://qrcode.kaywa.com), which will generate a QR code with up to 250 characters of information at no charge. (That's more than enough to hold your name, title, and company name, address, phone number, email address, and Web site.) There are many other generator programs, as well, some of which specialize in creating formats easily imported into contact databases. (Proper formatting is the key to success with QR codes.)

To read a QR code, a device needs a camera to capture its image and a QR reader to make sense of it. Based on the data built into the code, the reader's capabilities, and your own phone's features, readers may offer to perform additional actions upon scanning. These include sharing the data via email or text message, displaying the location on a map, visiting a Web site, or converting the information into a contact. Some can also redisplay the QR code, and others, as mentioned above, can generate a QR code on the fly from information you provide or have stored on your phone.

You'll find many free readers for Android, iOS (iPhone, iPad, etc.) and BlackBerry devices. Some newer phones have QR readers built in.

### The Power Of Proximity

If both phones have the right chips, you can use close-range networking technologies, such as Bluetooth, infrared, and increasingly NFC (near field communications), to exchange data. However, you'll be responsible



The Bump app offers the unique approach of sensing and making a connection when two phone users bump their phone-holding hands together.

technologies are far from ubiquitous in smartphones.)

If you would rather use an application to do the heavy lifting, try one of the new apps that uses the pressure-sensing capabilities of touchscreen phones to "feel" when two phones connect. One example is Bump (free; <http://bu.mp>; for iOS and Android), which kicks into action when two users bump their (phone-holding) fists together. Both must have Bump installed and running for this to work.

When Bump feels a bump, it reaches over the Internet to its cloud-based network to find the corresponding bump. When it finds a match, it asks both partners to confirm the connection and then makes the information exchange. Pretty nifty, all around.

### Hash It Out

Hashable (free; [www.hashable.com](http://www.hashable.com); iOS or Android app) is a good choice for those who want not only to distribute business cards but also to remember details such as location and event. You must create an account to use

TELL YOUR FRIENDS TO TXT BOLETER TO 50500

OR, TXT 'SEND 3034759204' TO 50500 TO BEAM YOUR CARD FROM YOUR PHONE (where 3034759204 is the recipients' number)

This is the editor for your profile page. Go ahead and make all of the changes that you need - we won't watch. When you're done please press the button below to submit them. The more information you provide the prettier your profile will be. Not to mention, you'll probably want to give your colleagues more than one way to reach you in a bind. One day when you're in the woods being mauld by a bear you'll thank us.

FIRST NAME

LAST NAME

TITLE

COMPANY

YOUR TXT CARD

Bo Letter  
Business & Technology  
Solutions  
[www.boletter.com](http://www.boletter.com)  
4042337778  
[boletter@beletter.com](mailto:boletter@beletter.com)  
Card: <http://cntx.me/wym>

To include a variable vcard, include this text in your card 'Save card: http://cntx.me/wym'

Contxts features a simple interface and premise: Set up a basic SMS message with your card details and add a Web link for users who want to locate your credentials online.

for setting up not only the connection but also the file you transmit, such as a vCard or other readable contact file. (Bluetooth is the most likely candidate for this, at present, as the other two



Hashable, but you can do so either online or from the app on your phone.

Hashable lets you “hash” someone—providing tags to where and for what purpose you saw them, send a message, and if desired attach a digital business card. Hashable tracks all those connections, making it easy to match faces and places after a busy conference or long business trip. Recipients of your messages don’t need to be on the Hashable network as long as you can provide a Twitter handle or email address for them (or have one stored in your contacts). You can even set reminders for future plans or follow-up contact.

### Tweet, Tweet

Speaking of Twitter, another service, TwtBizCard (free; twtbizcard.com), lets you create a formatted, digital business card that your clients/associates can view or copy from an online interface. TwtBizCard provides you with a link to the card that you can then tweet and share in the same way you would any Twitter posting (including via text message). You can also set up groups of contacts to which you can push updates as needed.

Select the fields to appear on your SnapCard™.

Cancel Edit

**Melanie Vasser**  
Director  
SnapDat Networks

mobile (212) 555-8745 ✓

work (917) 555-3333 ✓

home melanie@snapdat.com ✓

work mvasser99@gmail.com

work 24 Mercer Street

Change Design Import Contact Save

SnapDat lets you customize what information to send and can generate beautiful, professional-looking digital business cards.

### Send Me A Message

For fans of text messaging, one of the most straightforward products we found to use was Contexts (free; www.contexts.com). The sign-up and interface are Web-based (no apps to download, although there is an iOS app if you want it). Once you sign up, you can create an SMS business card (140 characters or less) and transmit it via text message.

You’ll also get a super-short link to the downloadable online card, which you can share by any means you wish. Optionally, a recipient can request your card by texting your phone number to 50500. The premise for Contexts is very appealing. However, it is currently in beta testing, and we experienced minor kinks. These may be worked out by the time you read this article.

### iPhone Only

Two easy-to-use services/apps that produce fully formatted digital business cards are currently available only for iPhone users. One is SnapDat (free; www.snapdat.com). It integrates with your contacts, automatically updating them with any SnapCards (digital business cards) you receive. It does the same for other SnapDat users to whom you send a card. For those without SnapDat (or an iPhone), you can send an image of your card, with a vCard file, via email.

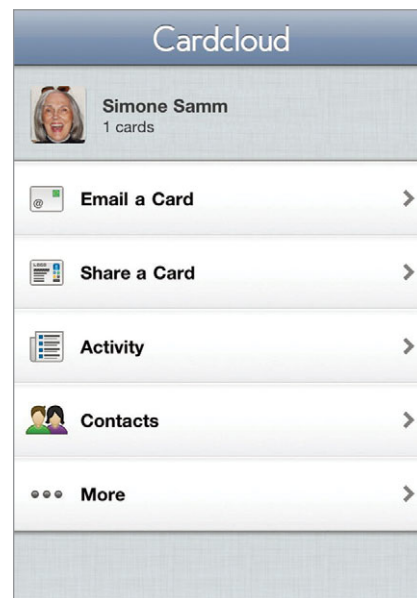
Cardcloud (free; www.cardcloud.com) is similar to SnapDat but goes one better by offering an online interface from which you can run it (desktop or mobile at m.cardcloud.com). It also tracks where you make your connections and can integrate with LinkedIn.

### Many Paths; Similar Results

There are many other ways of sharing, or collecting and processing, business card information that we don’t have room to discuss here. For example, BusinessCard2 (free; businesscard2.com) gives you a searchable and sharable, public, online

business card. It also lets you share files, videos, and other promotional material.

LinkedIn’s CardMunch (free; www.cardmunch.com; iPhone only) digitizes the information from pictures you take of paper business cards. It then auto-populates it to your address book. For Android and Symbian (also iOS) users, Abbyy Business Card



For those with an iPhone, Cardcloud offers the most features, but its online interface works nicely for phones on other platforms.

Reader (www.abbyy.com) does a similar job and also searches for other relevant details. (Abbyy costs between \$4.99 and \$24.99, depending on the platform, but offers a limited free trial.)

For those who collect lots of paper cards and don’t want to learn a new program, there is CloudContacts (www.cloudcontacts.com). For a fee, these folks will digitize your paper business cards and load them to your online account, from which you can export them to more than a dozen formats. Finally, for purists looking to avoid any more technology than necessary, there is always the simple text message. Create your own card details, save it as a template, and you can text it to whomever you like. ■

# Browser Security

## Safari



thing. When you start typing your information in a Web form, Safari displays a drop-down field, giving you the choice to allow Private AutoFill to complete the form (using your personal information from Outlook or Windows Address Book) or fill it out one box at a time. You can configure your AutoFill Web forms by selecting the AutoFill pane in Preferences (via Settings). Safari will automatically fill forms using information from your address book card if you select the associated box. And when you select the boxes next to User Names And Passwords and Other Forms, Safari remembers your saved usernames and passwords, as well as any Web sites that have stored your AutoFill data. Click the Edit button next to either option to remove the aforementioned information from each preference.

Safari includes a third concealment feature called Private Browsing. If you're using a public computer in a public workplace, and you prefer not to expose sensitive information to people who use the computer after you, the Private Browsing feature will protect your browsing history. (It won't prevent Web sites that you visit from gathering information.) Safari will not keep track of Web sites visited, search history, or AutoFill data. To switch to this browsing mode, click the Settings icon and choose Private Browsing. Click OK in the Do You Want To Turn On Private Browsing? dialog box. Click OK. For the duration of your Private Browsing session, the Private icon appears in the Smart Address Field (the Address bar). To turn off Private Browsing, simply click the Private icon and click OK when Safari asks Are You Sure You Want To Turn Off Private Browsing?

Apple's Safari browser for Windows (version 5.1) is armed with plenty of security features that will safeguard your personal data wherever you roam on the Web. Many of the default settings are activated to protect you as soon as you open the browser, while others may require some modification depending on your preferences.

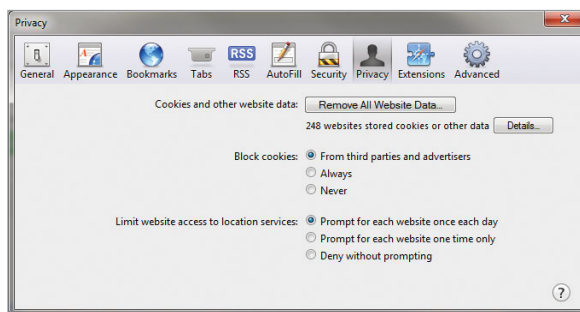
### Privacy Options

Safari is designed to filter the data that outside parties can access as you surf the Web. Certain Web sites that you visit use your stored data to track where you browse, but you don't have to let sites retain that information. Additionally, you can personalize your cookies (small files that Web sites store on your PC) and limit how often Web sites can request your physical location.

To customize these settings, open Safari and click the drop-down arrow next to the Settings "cog" icon. Select Preferences and click Privacy. Under the Remove All Website Data button, you'll see a number listed next to Websites Stored Cookies Or Other Data. To view these sites, click Details. You can delete individual Web sites or all sites to

reduce browser tracking. Select a site and click Remove to get rid of one site at a time; click Remove All to clear the entire list (alternatively, you can just click Remove All Website Data in the Privacy pane).

In the same dialog box, there are three options to block cookies: From Third Parties And Advertisers, Always, and Never. Click the option you prefer. If you want to limit Web sites' access to retrieve your location, click Prompt For Each Website Once Each Day, Prompt For Each Website One Time Only, or



In the Privacy pane, you can manage your cookie settings and restrict how often Web sites acquire your geolocation.

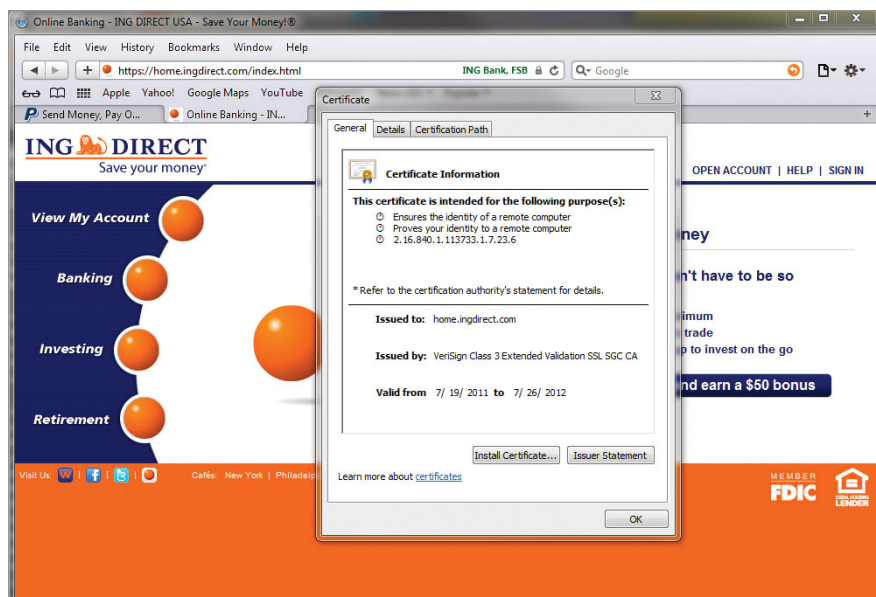
Deny Without Prompting.

The Private AutoFill feature doesn't automatically fill out online forms, unless you allow it to. But, this is a good

### EV Certificates

Some Web sites choose to add extra security (encryption or third-party verification) to their sites in order to protect against Internet fraud. For instance, financial institutions and other businesses





The purpose of an EV (Extended Validation) certificate is to check the third-party authentication of a site's credentials.

want to ensure that customers who navigate to their sites will feel safe when entering sensitive data. The Safari browser supports EV (Extended Validation) certificates, so you can quickly recognize a legitimate Web site. To know if you're at a site that's been authenticated, look for the name of the Web site displayed in green on the right side of the Address bar. Click the name and the Certificate dialog box will open. The Certificate Information listed should include what the certificate is intended for, which site it's issued to, which organization verified it (such as VeriSign), and how long the certificate is valid.

### Reset & Empty

You can refresh Safari by actuating two settings: Reset Safari and Empty Cache. Reset Safari lets you erase particular items associated with your browsing patterns, whereas Empty Cache will clear memory (visited Web pages, images, etc.) if you want to remove the content Safari has saved. To locate both of these settings, click Edit in the Menu Bar. Select Reset Safari and the browser will ask you if you want to reset. You should see a checklist of items to reset; by default all of the items will be checked. Uncheck any you don't

intend to reset and click the Reset button. If you click Empty Cache in the Edit menu, Safari will prompt you to click Empty or Cancel.

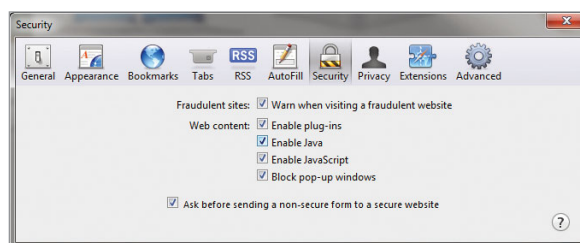
### Configure The Security Pane

The Security pane is accessible through the Preferences menu. You can use these settings to block or allow Web content and adjust security warnings. When the box next to Warn When Visiting A Fraudulent Website is checked, Safari will always provide a warning message whenever you log on to a potentially counterfeit site. Next to Web Content, there are four boxes that include the following settings: Enable Plug-Ins, Enable Java, Enable JavaScript, and Block Pop-up Windows. By selecting the boxes, you are giving Safari permission to execute those commands. Enabling a plug-in expands Safari's capabilities, such as displaying images and playing music and video that may appear on certain sites you visit. Enabling Java means you are letting the

browser show interactive features and Web page animation through a program used on some Web sites. Enabling JavaScript confirms that JavaScript software (use for Web tools, forms, etc.) is allowed to function normally each time you visit a site that uses the software. If you regularly go to sites that make use of pop-up windows (and the windows are legitimate and safe), you can uncheck Block Pop-up Windows to view the content in any new pop-up window. Additionally, leaving a check mark in the Ask Before Sending A Non-Secure Form To A Secure Website box permits Safari to display a warning when a site hasn't provided a secure form for entering sensitive data.

### Common Protective Features

Not unlike most secure Web browsers, Safari incorporates phishing, malware, and virus protection. When you come across a site that's deemed suspicious or that appears to be a malware conduit, the browser proactively identifies and warns you. In the case of phishing, the browser



Use settings in the Security pane to allow or deny interaction with some Web content.

may even stop the page from loading. Safari will also alert your antivirus software to scan attachments that you download.

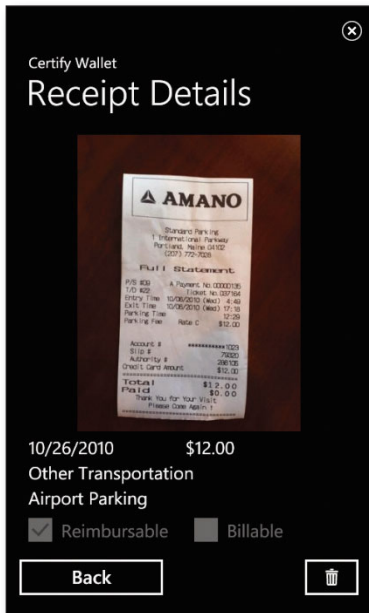
### Report Issues

If you notice any glitches in Safari that are related to security settings or other features, you can notify Apple about them. Click the Settings icon and select Report Bugs To Apple. Enter the Web page URL, describe the problem, indicate whether you're sending a screen shot or source to Apple, and then click Submit. ■

# Mobile Marketplace

## Business Apps For Android & Windows Phone 7

Some powerful business tools are floating in the sea of smartphone apps. Each month, we'll highlight some of the best ones for Windows Phone 7 and Android platform users. (Unless otherwise noted, Windows Phone 7 apps are available in the Zune Marketplace, and you'll find Android apps in the Android Market.)



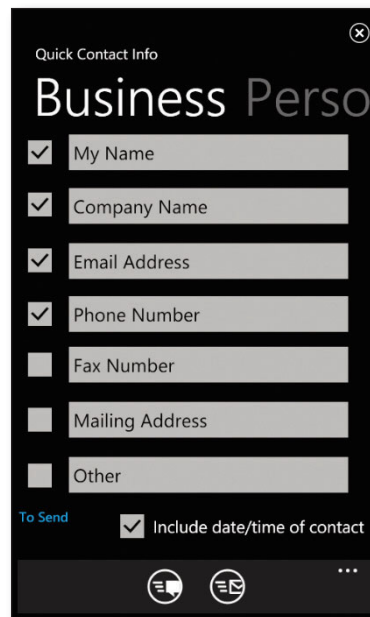
### Certify Wallet

Android

Windows Phone 7

The mobile expense management app from Certify is for both individuals and corporate groups. Certify Wallet (free 30-day trial; requires Certify On Demand subscription) records billable hours and lets the user distribute invoices when he is logged in to Certify.com. If you like to personalize your invoice requests, you can add your business contact information and a company logo. As a traveling salesperson, you are able to

conveniently snap photos of receipts and email expense reports to your accounting department while on the go, so you don't have to waste time stapling receipts to forms when you return to the office. This feature works during airplane mode, and when you're back online, you can sync and send the reports. Certify has incorporated Travelocity Business Express, a feature that automatically generates an expense report when you book a flight, rental car, or hotel through Travelocity Business.



### Quick Contact Info

Windows Phone 7

Contact information makes the business world go 'round. If you're networking and collaborating on a daily basis, you can only guess how many times you might exchange your contact info with new clientele or a colleague. The Quick Contact

Info app (free) from ErlenSoft is a great digital substitute for the traditional business card swap. (Who knows how many cards you've actually lost?) With this app, you can enter your name, company, email address, phone number, fax number, mailing address, and any other data (only once and it's saved) to text or email to a recipient. If you only need to send your email address, you can simply checkmark the box next to your email address and text or email it. You can send basic contact info in a professional manner and add a brief message, if you like.



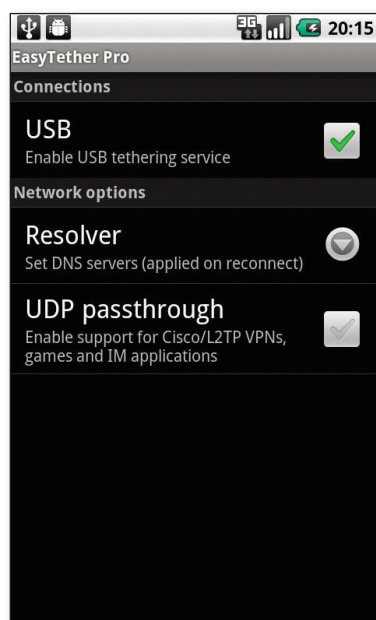
### Close The Sale!

Windows Phone 7

If you want to maintain a steady income in sales, you have to set personal goals. With Close The Sale! (free), this process is streamlined in five categories. To begin, you'll enter



some important percentage and salary data in Settings. In the Financial Goals category, Close The Sale! tracks your gross monthly income, monthly net pay, and other salary details. To customize your desired gross monthly income and average income earned per unit sold, you'll enter the appropriate data in Production Goals. In Activities, you can view the number of prospects you need daily to reach your goals, how much time you have to get in contact with prospects, and how many activities you've completed overall. Be sure to check Unit Sales to view how many units you're moving on a regular basis. There is also a pay-for version of Close The Sale! for \$3.99.

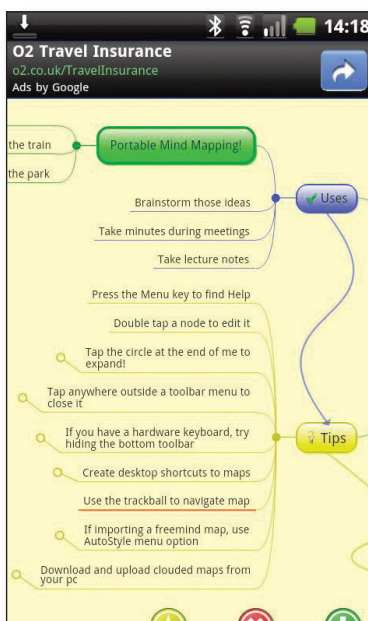


### EasyTether

Android

EasyTether (\$9.99) lets devices piggyback an Internet connection from your smartphone via USB cable. The app doesn't require mobile broadband service—all you'll need to do is tether the USB cable to a PC (Windows, Mac OS X, or Ubuntu), Sony PS3, Nintendo Wii, or Microsoft Xbox. The app will run a setup wizard to help you

enable the connection. If you want to test EasyTether before you shell out the coin for the full version, you can download EasyTether Lite free. This version doesn't support instant messengers, secured sites, and tethering to game consoles, however.



### Thinking Space

Android

If you're a visual organizer, then Thinking Space (free) should be the next app on your to-download list. Billed as "portable mind mapping," Thinking Space gives you links, notes, colors, and icons to create an interconnected diagram. The developer, Kinesthetic Ltd., recommends using Thinking Space for taking minutes, organizing a new business plan, outlining tasks, and planning events. Any files you produce with Thinking Space may be used in conjunction with other mind mapping applications, such as Freemind, Xmind, MindManager, and MindMeister API. For \$4.78, you can install the Pro version of Thinking Space that includes file hyperlinks, tag sorting, folder categories, style options, and full-screen mode. ■

## App Of The Month



### GO Launcher EX

Android

The Android platform was engineered for customization, and GO Launcher EX (free) takes advantage of this capability by supplying users with hundreds of home screen themes. Plain and simple, you can put your icons where you want and hide and reveal them according to your preference. Choose icons from a pop-up menu, access a task manager (and folders) in the app drawer, and set screen transition and flip speed. To choose a theme, locate Themes Preferences when you search through Go Launcher Theme. Thanks to the Go Launcher development team, the latest upgrade to the app provides more grid size options, supports track ball page turning, enhances the interface for the dock bar and app drawer, and fixes wallpaper bugs associated with switching themes.

# A Slice Of Apple

## Tips & Tricks



According to Gartner Research, Apple's share of the personal computer market continues to grow, increasing from 9.3% in 2010 to 10.7% in 2011. Macs aren't taking over, but at a time when some PC manufacturers seem to be tacking against the wind, Apple appears to have full sails.

Whether you're one of the new Mac converts or a grizzled veteran, there is always something new to learn about your Mac. Here are a few tips and tricks that will help you work faster, increase your productivity, and maybe make your Mac even more fun to use.

### 1 Use Spotlight To Find What You're Looking For

Even the most organized person loses something occasionally. If you're looking for a file or program on your Mac and can't remember where you put it, Spotlight helps you find it—fast.

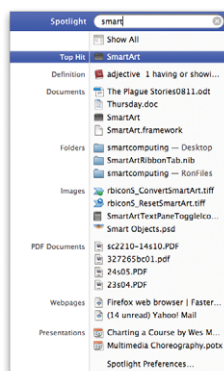
To search with Spotlight, click the Spotlight icon, which is the magnifying glass icon on the far right-hand side of the Menu Bar. You can also access Spotlight by pressing COMMAND-SPACE. Enter

a search term into the Spotlight field. You can search for words, phrases, or file types. Spotlight will search through files, applications, emails, and pretty much everything on your computer in its attempt to find what you're looking for. Results are displayed the moment you start typing in your search term, and organized by document type.

### 2 Drag-And-Drop Text & Graphics From The Web

Mac OS X makes it easy to capture text and graphics from the Web. There's no need to copy and paste: you simply drag and drop.

Did you come across an image online that's perfect for your presentation (and that you can use without violating copyright)? Left click the image, hold down the mouse button, and drag it into the document where you want to use it. You can also drag and drop text in the same way. Highlight the text you want, left-click the selected text, hold down the mouse button, and drag the text into nearly any document.

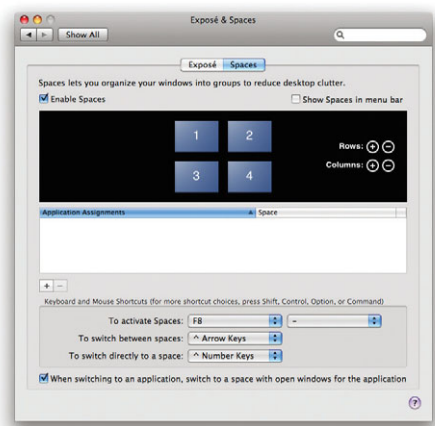


Spotlight quickly searches your Mac, organizing results by file type.

You can also drag and drop to your Desktop or any folder. Mac OS X will automatically create a text document or graphic file, depending on what you're dragging and dropping.

### 3 Use Spaces To Reduce Window Clutter

Do you wish you had a second monitor or even a third? Do you have so many applications and windows open at once you sometimes lose track? Mac OS X allows you to reduce window clutter through the use of Spaces.



From the Spaces properties window, enable Spaces and increase or decrease the number of virtual spaces you want.

To set up Spaces, click the Apple menu (the little apple icon on your Menu Bar) and select System Preferences. Double-click Exposé & Spaces. This will bring up the Exposé & Spaces properties windows. Initially, Spaces is turned off. Enable Spaces by checking the box next to Enable Spaces. By default, four Spaces are enabled, but you can add or subtract Spaces by adding or reducing the number of columns or rows.

With Spaces enabled, you can move between your Spaces by holding CONTROL and pressing an arrow key. You can also select a specific Space by clicking the Spaces icon on your Mac Dock or by pressing F8 and selecting the Space you want. (The Space icon resembles a window with four panes.)

Now, open the applications you want to work on in each Space. Each application runs in the individual Space you've created, allowing you to reduce your window clutter and stay better organized.

## 4 Zoom In

Is the text on that Web site too small to read? Do you want to zoom in on a specific section of a photo or video? Mac has a built-in zoom feature. This feature is particularly handy for presentations, photos, and videos.

To zoom in, move your cursor over the area you want to magnify, hold the CONTROL key, and use the mouse wheel to zoom in and out. No mouse? Press COMMAND-OPTION-8. This enables the zoom feature on the keyboard. Now, you can use COMMAND-OPTION + and COMMAND-OPTION - to zoom in and out.

## 5 Close A Frozen Application

Did an application get hung up or is it just taking too long to finish a task? Mac OS X provides an easy way to force applications to quit.

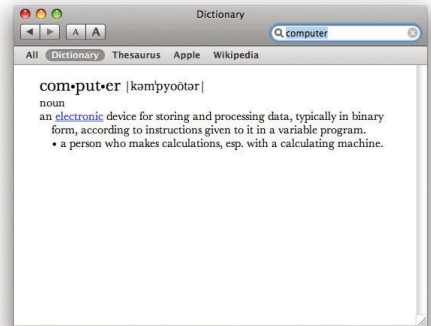
Hold down CONTROL-OPTION and, on the Dock, click the icon of the application you want to quit. This will bring up a small pop-up menu.

Select Force Quit from the menu to end the application.

## 6 Use The Apple Dictionary

Did you know your Mac comes with a dictionary and a thesaurus? Apple's Dictionary is a handy app, particularly if you're in a situation where you don't have Internet access.

Click the Finder icon on the Dock. (Finder is the icon of a smiling face.) Select the Applications folder on the left side of the Finder window, then double-click Dictionary in the Applications window on the right. **I**



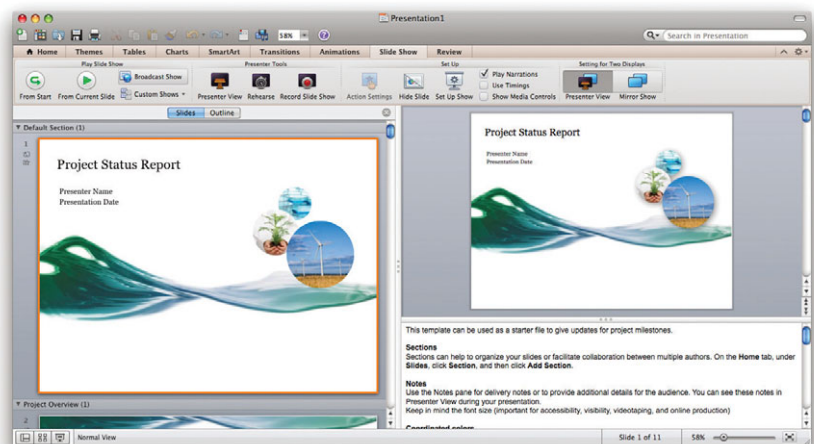
If you're offline, you can use Apple's Dictionary application to look up definitions or find synonyms and antonyms.

## Share Your Office For Mac PowerPoint Presentations Online

**M**icrosoft Office For Mac's PowerPoint allows anyone with broadband access to share his presentations with others using Microsoft's PowerPoint Broadcast Service. All you need is Office and a Windows Live ID.

In PowerPoint, select Slide Show from the ribbon bar, then click Broadcast Show, bringing up the Broadcast Slide Show window. Keep all the defaults; there's nothing to change. Click Connect. A sign-in window for Windows Live ID will pop up. Sign in with your Windows Live ID. Once you're signed in, your presentation will be prepped for broadcast, then the Broadcast Slide Show window will pop up. There's a long URL in this window. This URL will direct people to the broadcast of your presentation. You can click Copy Link to get a copy of the URL or you can click Send In Email to send a copy of the URL using your default email program.

Once your audience has followed the URL you sent, click Play Slide Show to begin your presentation and the audience will see the presentation as you do. When your presentation is finished, click End Broadcast to end the presentation and disconnect your audience.



Using PowerPoint's broadcast feature, you can broadcast your presentation over the Internet.





# iCloud Rolls In

## Apple's New Online Service

Cloud computing is more than just a virtual playground for developers, now that Apple has announced the launch of iCloud ([www.icloud.com](http://www.icloud.com)), the company's new wireless syncing platform and successor to the MobileMe ([www.me.com](http://www.me.com)) subscription-based service. Originally dubbed iTools about a decade ago and then renamed .Mac, MobileMe was released in 2008.

Although support for MobileMe is slated to expire on June 30, 2012 for subscribers with accounts activated prior to June 6, 2011, Apple discontinued MobileMe availability in retail stores on Feb. 24 this year. The transition to iCloud will incorporate some features from MobileMe in addition to new cloud-based offerings. Moreover, iCloud will be offered at no charge for iOS 5 and OS X Lion users.

At this time, MobileMe users can access data on certain programs, such as MobileMe Mail and Mac OS X Mail; Contacts and Bookmarks; iCal; and the multimedia created in iPhoto, iMovie, and iWeb, on multiple Apple devices. For instance, if you have an @me.com or @mac.com (from the .Mac phase) email address, you can sync your Address Book, calendar events, and photos on your PC, MacBook, iPod touch, iPhone, and iPad.

Basic storage in MobileMe costs \$99 per year for 20GB (or \$149 a year for the Family Pack with a 20GB primary account and 5GB sub-accounts), whereas iCloud offers 5GB

of free storage, unless you decide to buy a storage upgrade. Another \$20 each year will get you 10GB of iCloud storage. For \$40, you'll receive 20GB. And for \$100, you have access to 50GB of space. Any purchased music, apps, books, TV shows, as well as the photos in Photo Stream (we'll explain this later), "don't count against your free storage," Apple says.

Although we could continue making MobileMe and iCloud comparisons, we'll get right to it and cover the must-know info about iCloud in its beta stage, including current and upcoming features.

### It's Raining Features

At press time, only the developer community could access iCloud. Apple will release iCloud as part of iOS 5, the next generation of its mobile operating system. iOS 5 is compatible with the following devices:

iPhone 3GS, iPhone 4, iPod touch third generation, iPod touch fourth generation, iPad, and iPad 2.

Essentially, iCloud will function as an online service that lets you access almost all the content on the aforementioned devices (plus on a Mac or PC) whenever you like. By wirelessly pushing app content and multimedia to your devices, you don't have to sync your mobile gadgets to your home computer, such as when you connect your iPod touch to your MacBook Pro in order to back up apps and music.

**Music.** In iCloud, you can purchase new music, TV shows, and movies via iTunes, and iCloud will push the song, episode, or film to the rest of your devices, regardless of which one you use to download the media. When you use this Automatic Downloads feature, you must have a broadband or mobile broadband connection for iCloud to sync content. iTunes tracks your



iCloud makes your data accessible to all your iOS 5 devices and your PC. If you use multiple devices, iCloud may be just what you're looking for.

Image courtesy of Apple.

When you read books that you download from iBook, iCloud will bookmark your spot and sync the saved page on your various Apple devices.

Image courtesy of Apple.



purchase history, making it possible to get to previously purchased items on each of your devices. While both of these features are currently available as beta versions for the general public, an additional feature called iTunes Match will come with the official release. For \$24.99 per year, iTunes Match will search your iTunes music collection for songs ripped from CDs or albums you've bought from other Web sites and back them up to iCloud.

**Photos.** The Photo Stream feature will send to iCloud any photo you capture via an iOS device or that you import to your PC or Mac from your digital camera. When they're in the cloud, you can automatically access your photos on all your other devices, whether that's in iPhoto, your Photos app, Photo Stream for the Apple TV, or your PC's image library. iCloud will only save the 1,000 most recent photos on your iPhone, iPod touch, or iPad for 30 days, so your onboard storage isn't overburdened by a massive digital photo

collection. Also, your Mac or PC is the central hub for saving all of your Photo Stream pictures.

**Documents & Books.** If you create a document using the iWorks suite, you'll be able to save your work and then manage the document (presentations, reports, etc.) on Apple devices.

As of yet, iCloud doesn't support third-party apps, but developers will soon be able to build apps that sync over Wi-Fi in the cloud.

Buying one book from iBooks (or the iBookstore) is like getting up to five copies of the same book for no extra charge. For example, when you download your copy of the latest best seller, it's ready to read immediately on the rest of your devices.

**Apps & Backup.** iCloud's increased accessibility for all apps, past and present, lets you view every app you've downloaded on any device in the App Store's purchase history. In the same way iCloud instinctively sends iTunes content and books to all Apple devices, it will do so with your apps.

The Backup saves your iOS data, but incremental backups save the most recent changes you've made. In order to restore data over Wi-Fi, you'll enter your Apple ID and password on the device and it will return as if you'd never lost it. What does iCloud Backup safeguard for you? Music, apps, books, photos, Camera Roll, video, settings, app data, the home screen, app organization, text messages, and ringtones.

**Calendar & Communications.** iCloud users will appreciate the collaborative aspects of the Calendar: If you share a Calendar and decide to make changes to a group appointment, iCloud updates the edited appointment on all iOS devices.

To get emails pushed to your iCloud me.com email account, iCloud syncs your Inbox and folders, so you can view and respond to messages in real time. When you need to access a contact in Apple Mail or Microsoft Outlook, you can do so at [www.icloud.com](http://www.icloud.com).

## iCloud On The Horizon

If you'd like to get a notification in your Inbox about the official release of iCloud and iOS 5 to the public, submit your email address at [www.apple.com/icloud/notify-me](http://www.apple.com/icloud/notify-me). ■



Developers can already test some aspects of the beta version of iCloud.

# Fresh Fruit

Great Business Apps For Your iPad/iPod/iPhone

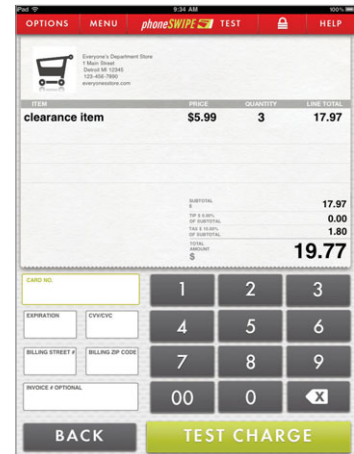


There's no shortage of impressive applications—some of them free—for Apple's popular family of mobile devices, and many of them are perfect for the home office worker or entrepreneur. Here are our favorite business-related mobile apps for the month. (Unless otherwise indicated, see the Apple App Store to purchase these.)

## Phone Swipe

**iPad iPhone iPod touch**

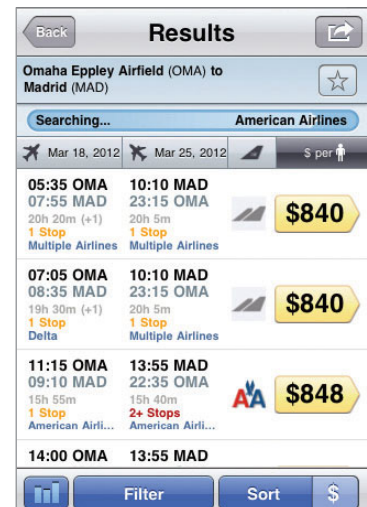
When paired with Phone Swipe's credit card reader, the Phone Swipe app (free) lets you run point-of-sale service from your iPad, iPhone, or iPod touch. The caveat is that you must sign up for an account with North American Bancard. One account will support multiple portable devices, making it easy to track a large inventory from your at-home business. To maintain this inventory from your device, you can load a digital library of your products by taking photos with your Apple device. When you complete a transaction with Phone Swipe, the app



emails a receipt to the customer and provides an option for tipping.

## Skyscanner **iPhone iPod touch**

Searching for an affordable flight is no small task these days. So, it's a good thing that Skyscanner (free) compares flights from more than 600 airlines. The information you're required to enter is simple: Select your departure and return locations and dates, choose your passengers, and tap Search. Skyscanner will search for the cheapest travel dates, provide details on

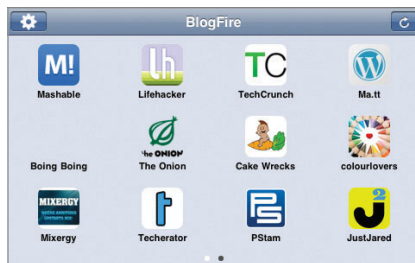




itineraries, and let you book directly from the app via phone or Exploretrip.com. You can create a favorite flight to reference in the future in order to check for updated prices. Plus, your recent searches are listed at the bottom of the search screen. Want to avoid layovers? Swipe the Direct Flights Only button to search for flights.

### BlogFire

Blog aggregators are perfect for organizing all of the RSS feeds you like to follow. BlogFire (free) is a mobile aggregator that does just that, but pushes notifications to your device for any blog site or feed that you manually add. The app won't bombard you with alerts if you don't want it to, because you can pause notifications and mute sounds.

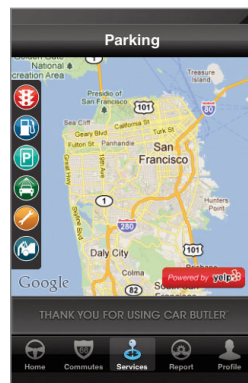


The Quiet Hours setting prevents BlogFire from notifying you about new posts. You're also able to determine the time period between receiving new alerts. Sharing posts is easy, as well. To do so, select an individual blog post and tap the share icon (which looks like an arrow shooting from a box). Tap More (or Facebook) and choose a

service such as Twitter or Delicious. Another bonus: You don't have to set up an account to use BlogFire.

### Car Butler

The Car Butler app (free) won't serve you Grey Poupon at your car window, but it will be your go-to app when you need to find automotive services, report an accident, or plan a commute. The Services options will retrieve the following information in your current vicinity: gas stations, mechanics, reputable body shops, car watches, and parking lots. If you're involved in a fender bender, tap Report, select Start Accident Report, and fill



out the accident details. You can send the report to everyone involved. If you want to quickly reference your driving data (license, insurance, and vehicle information), fill out the fields in the Profile feature. Car Butler HD is coming to the iPad soon and will support the same offerings.

### PomodoroPro

Are you familiar with the Pomodoro Technique? No, it's not an Italian method for slicing a tomato (pomodoro is "tomato" in Italian). Taking the Pomodoro Technique seriously helps you make the most of your time and assist you in cutting back on your procrastination habits. To start, choose a task, set a timer for 25 minutes and when it sounds, mark down your productivity and take a five-minute break. After every four Pomodoros, you can take a progressively longer break. PomodoroPro (\$2.99) simplifies this



process with a fun app. Start the virtual timer when you're ready to begin a project, wait for PomodoroPro to ring, break, and start again. You won't have to remember to reset the work timer because the app switches between work periods and break periods automatically—and it keeps track of every finished Pomodoro. ■

## Noteworthy App Of The Month

### CamDictionary



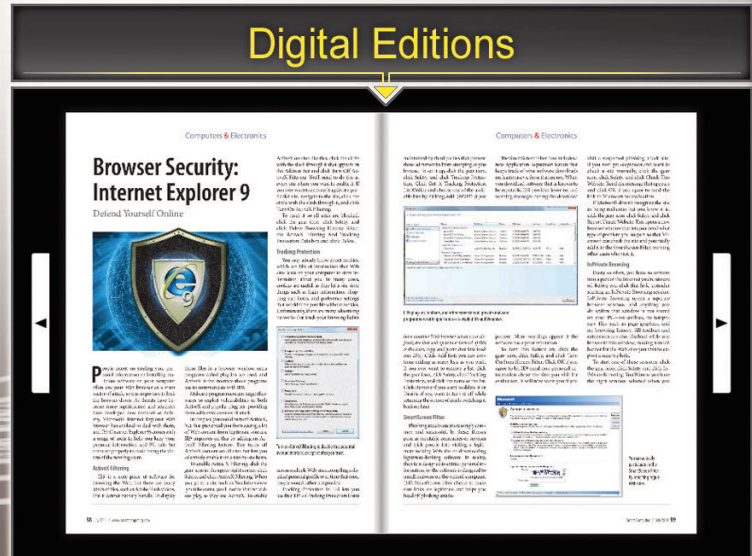
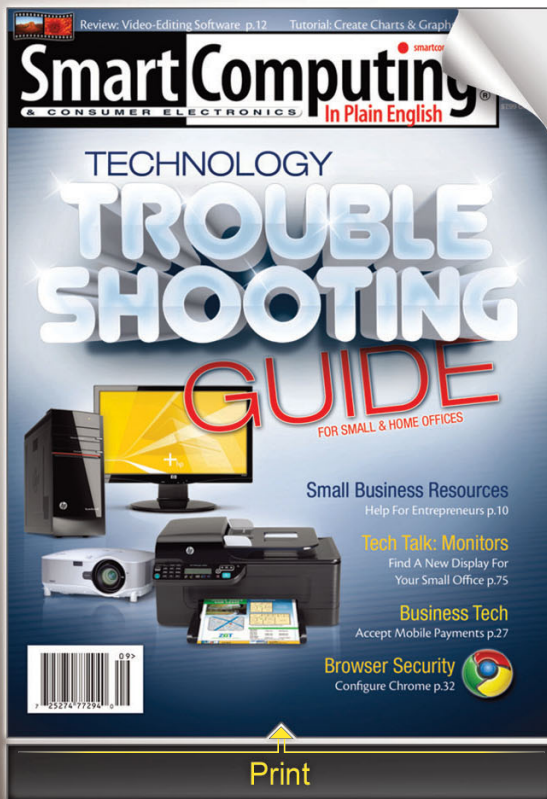
The Apple App Store certainly doesn't lack language translation apps, but some are unique enough to highlight as a ripe pick for Fresh Fruit. CamDictionary (\$4.99) from IntSig Information packs several features into a single app. Whether you're an international traveler or language translator, CamDictionary can recognize and translate text that you place in front of your iPhone's rear camera. Using viewfinder in the app, steady the device and pause the viewfinder, so you can tap a character, word, phrase, or sentence. CamDictionary can translate up to 16 languages including Korean, traditional Chinese, Dutch, German, and more. It also supports Bing and Google translations between 54 languages. You can hear the pronunciation of 18 different languages, thanks to the text-to-speech feature. In addition, CamDictionary saves recent history, making it possible to check offline the previous 500 entries.



# The Tech Info You Need, In Plain English

You don't need to be an IT guru to buy and maintain computers and gadgets for your home or small office. *Smart Computing* keeps you up-to-date with plain-English articles that explain new technology and define technical terms. Each issue includes news, tutorials, and step-by-step troubleshooting guides.

More than a typical magazine, *Smart Computing* is a reference tool. Benefit from the years of tech support advice archived on our Web site as well as access to our Digital Editions from any Internet-connected PC.





# The Small Office SERVER

A WORKER YOU DON'T HAVE TO HIRE



46 SERVERS 101 | 49 SERVER OPERATING SYSTEMS | 52 INSTALL WINDOWS SMALL BUSINESS SERVER



Say you're on the brink of taking the next step with your small (**but growing**) business: buying a server. Or maybe your company already has one or more servers, and you need to learn more about them. Either way, you've come to the right place.

This issue's feature package is all about servers for the small office. Even if you have no immediate plans to add a server to your place of business, it's good to at least know the basics. After all, as your company evolves, someday you might need a server to handle the things personal PCs simply can't.

A server, put simply, is a computer that multiple users can access over a network. It's generally always powered on, and it's built with hardware and software known for its reliability.

So why would you need one? What sorts of things make them necessary? Perhaps the best rationale for a small business server comes from *Smart Computing* editor Josh Gulick.

"As your business grows, your computing needs will expand beyond what your hodgepodge of consumer computers and network equipment can handle," he says. "You may need to host a Web site or provide email for your five new employees. You may have data that you need to simultaneously share and protect. Servers can help."

A server is often tasked with providing workers with shared storage space. It could be a clearinghouse for corporate documents, spreadsheets, presentations, marketing materials, employee forms, you name it. With remote access to the server, even workers who are on the road can quickly download files they need, no matter where they are. Closer to home, if your employees can each find the resources and information they need using their computers or mobile devices, that's less productivity wasted on asking each other—and

you—for digital items that could have been stored centrally.

Another point in favor of shared server storage is the fact that its data can be backed up regularly, such as after hours every workday. Using an online storage service or removable media that's later moved offsite for safekeeping, a server could be scheduled for automatic backups of the entire company's important data all at once. This avoids reliance on individual employees, who might forget to run backups on data stored on their own PCs.

A server is useful to everyone in the office as a shared system, but it can also disrupt everyone's productivity if it fails. That's why most are built with features that maximize their uptime, such as redundant components that start running when the primary part fails (called failover). For example, some servers have backup power supplies and/or hard drives, the latter called hot spares. Most users also connect their servers to UPSes (uninterruptible power supplies), which let the servers run on battery power for a period of time should the AC power go out.

The following three articles will give you a firm foundation in servers suitable for use in a small business. In "Servers 101" on page 46, we talk about different missions for servers, such as handling company email or providing remote access to large files. Next, in "Server Operating Systems" on page 49, we tell you what's what in popular server OSes. Finally, in "Install Windows Small Business Server" on page 52, go hands-on with us as we configure this powerful and popular server OS. ■





# Servers 101

## COMBINE & CONQUER WITH A SMALL BUSINESS SERVER

**W**hen it comes to managing computer hardware in a small business, less is more. The fewer PCs you have, the less time you must spend fixing them when things go wrong, and the less money you must spend keeping them all upgraded. Networked computers are the lifeblood of any business, and you and your employees must be able to easily collaborate on projects and share files. The right server lets you do all that and more while reducing maintenance and expenses.

A server acts as a central repository for programs and/or data, letting employees access those things from inexpensive clients (terminals or workstations) that have a minimal amount of hardware, or remotely via a secure connection. Most also come with print server capabilities that let you share one or more printers over the network.

There are several types of servers; each has its own advantages, and some combine many of the following functions into one extremely productive piece of hardware.

### Storage & Database Servers

Some servers are designed to store files or databases so employees can access and store them in a managed

environment. Serving files or databases this way helps prevent issues with multiple versions being stored and modified on multiple computers, and it simplifies backup and security, as all that is handled on the server.

Storage servers are constrained by capacity. Buy one that accommodates all your files but still has plenty of room for backup storage and future files. Getting an expandable storage server that lets you easily add drives later is also a good idea, and a good way

to save money is to buy one equipped with only the storage you need and then add drives later. Hard drive prices drop considerably over time even as their performance and capacity increases, so you can save a lot of money by holding off on storage upgrades.

Database servers are restricted mainly by the number of simultaneous requests for data they can handle. When shopping for one, be sure to buy a server robust enough to handle all your employees and with enough expansion capacity to accommodate the growth of your business.

### Application Servers

In a business without a server, employees have their own computers and



When buying a server, make sure it has a CPU specifically designed for server usage, such as the Intel Xeon E-3 1200 line of processors.





Tower servers, such as the HP ProLiant MicroServer, are often the most sensible choice for small businesses.

software must be licensed, installed, and updated on each individual machine. An application server streamlines that by hosting applications such as Microsoft Office on the server. Employees then connect to the server to launch the software. This can cut down dramatically on licensing fees; reduces employee workstation hardware requirements because the server does all the heavy lifting; and makes it much easier to update, configure, and secure applications.

Application servers also help you save money when new programs come out that have relatively high system requirements. When this happens, you can upgrade the server to meet the requirements instead of upgrading multiple PCs.

### Email, Web & FTP Servers

Managing all types of Internet access is crucial for all businesses, and it is difficult to restrict usage or stave off threats across multiple separate PCs. Instead, consider an email server that lets you centrally control and store all employee emails, or an FTP (File Transfer Protocol) server that lets employees remotely and securely access files from the road.

Web servers also exist that let you host your own company Web site. Many small businesses find that it's easier to engage a reputable Web hosting company (which is up to date on the latest security techniques) than to host a Web site. A Web host handles the nuts and bolts of Web hosting but lets you configure the site. You handle the parts that matter to you and leave the rest to the Web host.

### Server Hardware

A good server has the ability to grow with your business, letting you pay for more power only when necessary. Here are components you should focus on when purchasing a server.

**MEMORY.** Desktop office PCs often work fine with a few gigabytes of RAM, which is used to run software and improve hard drive performance via data caching. Servers need much more memory because they run multiple instances of programs for multiple clients, and everyone is competing for resources. The amount you need depends on the size of your business and type of software you run, but never skimp on this crucial component.

**CPUS.** A robust server CPU is needed for good performance for the same reasons that a lot of RAM is ideal. Multi-core CPUs designed specifically for servers, such as Intel's Quad-core Xeon Processor E3-1220 (\$189; [www.intel.com](http://www.intel.com)), are great. If you need extra power, buy a server with a motherboard that accommodates multiple multi-core CPUs.

**STORAGE.** Most servers store and transmit a lot of data, so hard drive performance is important. Because of this, many servers support RAID (redundant array of independent disks). This is a storage technology that operates in several modes to either improve performance or protect data. For example, RAID 1 mirrors information from one drive to a second drive, giving you half the total storage space of both drives but a perfect backup at all times for greater redundancy. At the opposite extreme is RAID 0, which dramatically boosts drive performance but offers no redundancy, because if any one disk fails, the entire array is destroyed. Obviously, it pays to pay close attention to what RAID mode is configured on your server.



Blade servers such as this Dell M610 are designed for maximum scalability and are often ideal for larger businesses.



Some servers support hot-swappable disks. This means you can remove a hard drive from the machine and install a new one without turning off the server. It's a great feature if the server runs in a mode such as RAID 1 and one of the drives fails. You can just pull the drive, put in a fresh one, and the data stored on the good drive is then mirrored to the new one with no system downtime.

**SERVER CASES.** All that hardware has to go somewhere, and servers come in a variety of case configurations. You can get tower systems that resemble a desktop PC, rackmount servers designed to harness the power of several servers stacked together, and blade systems that scale the rackmount concept to its logical extreme.

**TOWERS.** Most small businesses can make do with relatively inexpensive tower systems. Consider a full tower if you think you'll need to upgrade the storage capacity, as these often come with several empty hard drive bays. Consider a mini-tower if you don't need a lot of expandability and want to save space and money. An example of a typical entry-level tower system is the HP ProLiant MicroServer (starting at \$329; [www.hp.com](http://www.hp.com)), which accommodates up to 8GB of RAM and comes with a single AMD Athlon II Neo N36L CPU.

**RACKMOUNT SERVERS.** Businesses that anticipate a lot of growth and the need for extremely expandable server hardware should consider a rackmount system. These are relatively short and wide servers designed to slide into a tray enclosure, and when you need more computing power, you can simply slide another server into the enclosure and configure them to distribute the load.

You don't have to purchase a fully-loaded rackmount server if you would rather select components yourself. For example, the RM-1U122ITX mini server case from Athena Power (starting at \$149.99; [www.athenapower.us](http://www.athenapower.us)) holds two hot-swappable hard drives and lets you select the motherboard and other components you wish to build the complete system. This particular case is compatible with mini-ITX form factor motherboards, meaning it takes up far less space than a

## Virtual Servers

### WITH COMPUTER PERFORMANCE

improving dramatically over the years, VMs (virtual machines) have taken off. VMs let you run a virtual replica of an operating system from within another operating system and are often used to consolidate many types of disparate servers into a single machine.

This is best explained with an example. Say you have a server that runs a Windows operating system and another server that relies on the Linux operating system. Using a VM, you could run the Windows machine as normal, but also load a virtual re-creation of the Linux server from within Windows. As far as the Linux machine knows, it is running on its own PC with its own hardware, and you can install things on it just as you would if that were really true.

One downside to VMs is that they require a lot of computing power, so you'll need a hefty server to run one or more VMs in addition to the core operating system. Another drawback is that because hardware is emulated using software, VMs sometimes have hardware compatibility issues with the underlying hardware of the host machine.

rackmount case designed to accommodate a full-sized motherboard.

**BLADE SYSTEMS.** Blades are like rackmount servers on an extreme diet. They are as stripped down as possible, minimizing height, heat, and power consumption, and they don't even have standard connectors such as a power cord or network port. Instead, blades must be installed in a special blade enclosure that supplies electricity, networking, and other connections.

Blades are designed to scale beyond even the capabilities of a rackmount system and are ideal for large businesses needing to maximize the number of servers they can run in a single enclosure. A good example of an entry-level blade system is Dell's PowerEdge M610 (starting at \$1,336 without enclosure; [www.dell.com](http://www.dell.com)), which comes with an Intel Xeon processor.

### Do It Yourself?

No matter what type of server you decide to purchase, configuring and maintaining it requires knowledge that doesn't necessarily transfer over from using PCs. You can buy most servers preconfigured by the manufacturer, but most will require some tweaking to work well with your particular mix of hardware and software. Maintenance and upgrades should also be budgeted, and you may need to hire an IT consultant or full-time employee to keep everything running smoothly. Whatever the cost, servers can easily pay for themselves many times over by eliminating much of the hassle and money associated with running a traditional PC network. ■



You can put together your own rackmount server using a case such as the Athena Power RM-1U122ITX.





# Server Operating Systems

## A FIRST LOOK FOR FIRST-TIMERS

There are increasingly few times when small businesses don't need servers. This isn't necessarily true for highly mobile companies that don't need a central office and can run from the cloud. But most small offices still benefit from central operations and can run more effectively from local server resources. Once this is determined, managers must decide what server operating systems are best for their desired applications.

Just as desktop operating systems provide the software foundation on which our everyday apps can run, so, too, do server OSes play host to the apps that feed all of those business client machines. For example, most businesses that run Microsoft Outlook

on their desktops and notebooks will have Microsoft Exchange Server software running on a physical system somewhere. Types of server software include Web, file and print sharing, application services, email,

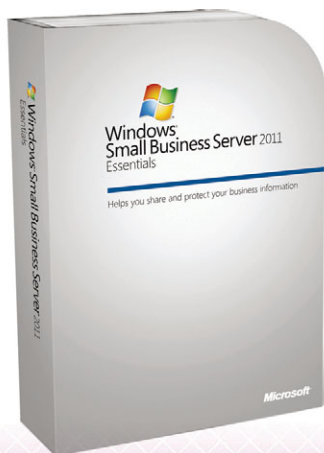
terminal, messaging, data storage, file streaming, and many more. Because server apps tend to be critical to business operations, not only the OSes but also the physical systems running them are built to be more robust, with much greater dependability, stability, and redundancy than what is typically found in the consumer space.

Which server operating systems make sense for your business? Let's look at some of the primary contenders and the advantages each has to offer.

### Microsoft Windows Small Business Server 2011

Rather than pick up Windows Server, Exchange Server, SharePoint Server, and Microsoft's other standard issue servers for small businesses (which might be prohibitively expensive to procure and manage individually), you can buy an integrated server suite for those who want to get running quickly. SBS 2011 comes in three variants.

The first is Windows Small Business Server 2011 Standard ([www.microsoft.com](http://www.microsoft.com)). For \$1,096, Standard supports up to 75 users and includes Windows Server Update Services, Exchange Server 2010, SQL Server 2008 R2 Express, and SharePoint Foundation 2010. The central idea of the package is to provide email, file and print services, group collaboration, and remote access from a single physical system. SharePoint Foundation throws in Office Web Apps (Microsoft's less-featured cloud version of Word, Excel, PowerPoint, and OneNote). SBS 2011 Standard, which is



Windows Small Business Server 2011 Essentials offers a stripped-down server atmosphere for local needs and dovetails with Microsoft's Office 365 for more functionality.



wall-to-wall 64-bit for improved performance, emphasizes automatic data backup and quick restoration, if needed. Note that Standard Edition's price only includes five client access licenses, or CALs. Each CAL can apply to either a user or device upon setup. Another five CALs costs \$361.

SBS 2011 Essentials covers up to 25 users with a \$545 price tag, and there are no CALs to purchase. This SBS version runs a copy of Windows Server 2008 R2 on a local server to handle file and print tasks along with on-premise applications and their backup needs. However, Essentials does not include SharePoint or Exchange servers. Instead, collaboration, mail, and instant

messaging (Lync) are integrated through Microsoft's latest productivity cloud offering, Office 365. Per-user monthly plan pricing ranges from about \$10 to \$27, and this is in addition to the \$545 for Essentials. Still, Microsoft's current push for total solutions that mix cloud with on-premise approaches makes sense for many businesses that want the best of both worlds, especially if there is existing on-site infrastructure still being amortized.

Finally, the Windows Small Business Server 2011 Premium Add-on (\$1,604 with five CALs; \$457 for an additional five-pack) is designed as an optional adjunct to the SBS Standard or Essentials editions. Premium includes an additional Windows Server 2008 R2 Standard license for installing another server on the network, as well as a license for SQL Server 2008 R2 that runs specifically under SBS 2011. Microsoft touts the suitability of Premium Add-on for running numerous virtual servers in the Hyper-V environment. (Premium Add-on licenses up to two virtual machines.)

## Top Server OS Considerations

**ALTHOUGH THERE ARE MANY CATEGORIES** of software server, and many more product options within each category, there are a handful of criteria that managers should keep foremost in mind when evaluating any server option.

**SECURITY.** The more you have to lose—both in terms of operations and business confidentiality—the more critical security should be in server decisions. Take a long look at known exploits against any potential server for your outfit and talk with unbiased security experts about not only how secure the platform is, but also how easy or complex it will be to maintain its security going forward.

**TOTAL COST.** The licensing fee is only the beginning for any server purchase. Be sure to account for client costs over time, how many administrators will be required, any new hardware required to support the server platform, and so on.

**MANAGEABILITY.** Smaller businesses in particular may be inclined toward servers that emphasize the ability to monitor and manage operation from a console system (often a notebook) across the Internet. Limited manageability should even be possible when the server is down, or "out-of-band," so that admins can remotely reboot and troubleshoot.

**PERFORMANCE.** A horse and buggy will get you to most destinations...eventually. Some servers may not deliver the performance required by your company, or, similarly, may not provide enough performance on the hardware you have available to run the platform. Benchmarks from a comparable or test pilot configuration are highly recommended.

**SCALABILITY.** How well will a given server grow with your company over time? All four of the preceding criteria come to bear on this issue. A solution that makes sense for 20 users may crumble under 200.

## Mac OS X Lion Server

For anyone who thinks that refined, top-brand server platforms are inherently expensive, check out Mac OS X Server ([www.apple.com](http://www.apple.com)). While Leopard Server (Mac OS X Server 10.5) sold an unlimited client license for \$999, Snow Leopard Server (10.6) cut this amount in half. Today, Lion Server (10.7) sells as a mere \$50 add-on for the regular Mac OS X. No doubt, this helps drive sales to Apple's client device ecosystem, but Lion Server remains a solid platform supporting an array of essential functions. The services contained with Lion Server span the following: Address Book, File Sharing, iCal, iChat, Mail, Podcast, Profile Manager, Time Machine, VPN (Virtual Private Network), Web, and Wiki. Viewed functionally, these offer server apps for contact management, calendaring, messaging, firewall, DNS (Domain Name Server), backup, and more. The Wiki Server, apart from simply facilitating group wikis, acts as a SharePoint-like clearinghouse for document storage and collaboration. And leave it to Apple to implement something like Podcast Producer for turning a business server platform into a multimedia-rich powerhouse for audio/video production and distribution.

Lion Server can be administered remotely, but the remote system must either be configured with Server or be connecting through Apple Remote Desktop, Screen Sharing, or VNC. The VPN service for secure remote client connections is about as simple to set up as a VPN can be, but the integrated Web server is largely based on the Linux Apache server, which operates from a command prompt rather than Apple's polished GUI (graphical user interface).





Mac OS X Server excels at enabling applications to flow across a range of desktop and portable devices, particular those of the Apple persuasion.

Overall, the Lion Server interface is very friendly, but for full feature control, admins will want to download the free Server Admin Tools from Apple's Support site. Lion Server is also known for its security, particularly in how it "sandboxes" applications so that they run in a virtual environment totally segregated from other apps, thus greatly reducing the risk of intrusion or malware spread between compromised software elements.

## Ubuntu Server

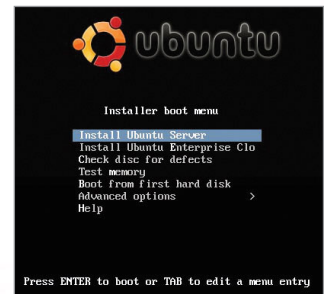
Arguably one of the most popular and mainstream of today's Linux distributions, Ubuntu first arrived in 2004. Under Ubuntu Server, applications come bundled with their dependencies in

"packages" for simpler administration. The Server edition includes file and print functionality, integrated virtualization support, power saving enhancements, and much more, but many conventional applications must be sourced from third parties. Long story short, the cost of entry into Ubuntu is low, but it's not for the faint of IT heart, and there may be significant additional costs for enhanced support, management tools, and packages.

## Other Servers

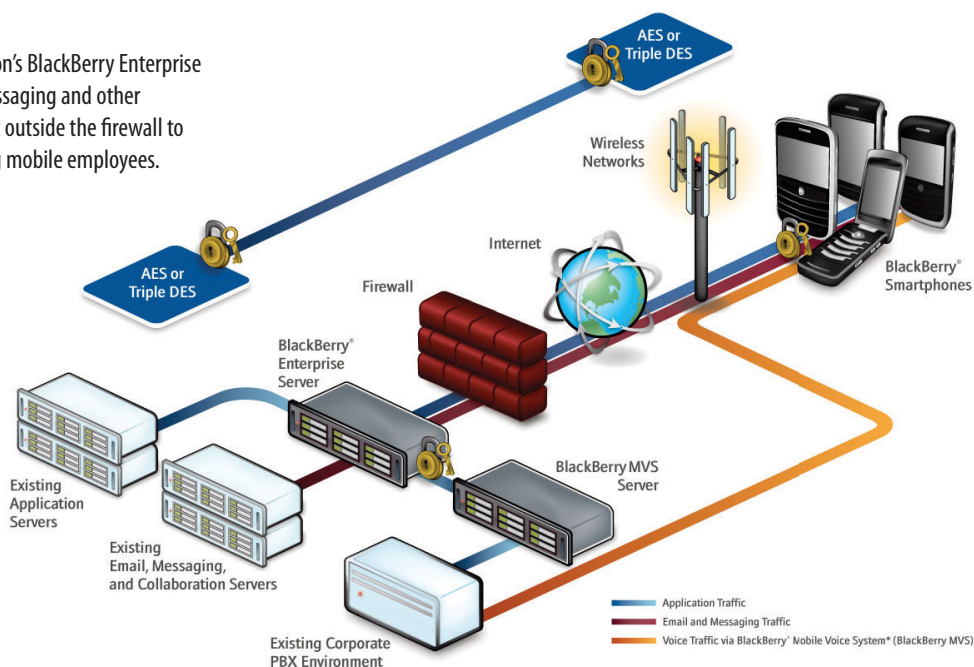
There are many more server types. For instance, companies that standardize on BlackBerry devices may want to deploy a BlackBerry server on top of their existing infrastructures. iChat for Lion Server is just one of many messaging and presence servers based on the XMPP standard. The Apache HTTP Server is free and works under a wide variety of operating systems.

These and many more software servers await growing businesses anxious to expand their IT capabilities and bring greater capabilities to their staff and customers. ■



While many servers take hours to provision, the initial Ubuntu Server installation can be done in only minutes from a CD or flash drive.

Research In Motion's BlackBerry Enterprise Server brings messaging and other application traffic outside the firewall to BlackBerry-toting mobile employees.



\* Applicable to BlackBerry MVS for Cisco® Unified Communications Manager.  
BlackBerry MVS requires a media gateway, where voice traffic routes through the BlackBerry MVS server during every inbound and outbound BlackBerry MVS call.





# Windows Small Business Server

STORE, MANAGE & PROTECT YOUR BUSINESS DATA

**W**hen a business is first getting off the ground, it often starts out with a handful of networked computers. As the business grows over time and more people and computers are added, it soon becomes pretty tough to keep track of where important data files are stored, who is allowed to access them, and how—or even whether—they’re being backed up.

When you arrive at this point, it pays to invest in a server to give your business centralized data storage, access control, and backup. Microsoft’s Windows Small Business Server 2011 Essentials, which is a simplified and streamlined version of its Windows Server 2008 for large companies, provides all of these features and then some. It’s designed for small firms with 25 or fewer users, and you don’t need to be an IT guru to use it. We’ll show you how to set up an SBS 2011 Essentials server and connect your computers to it.

## What You’ll Need

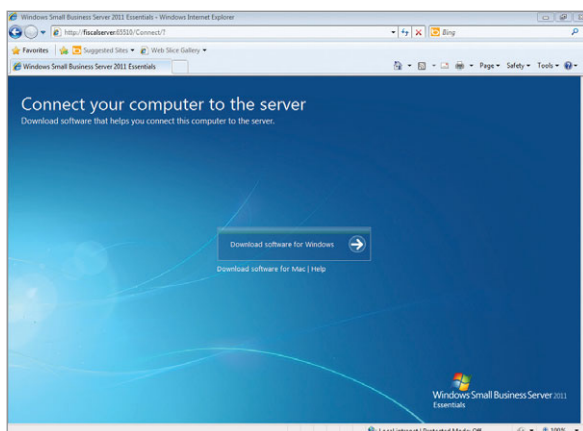
SBS 2011 Essentials has pretty modest system requirements, so it will run quite well on an entry-

level, sub-\$1,000 server. You can view the detailed requirements at [tinyurl.com/4ux9eo](http://tinyurl.com/4ux9eo). (It’s worth noting that SBS 2011 Essentials should not be confused with SBS 2011 Standard, a more powerful and expensive version for businesses with up to 75 users.)

As of this writing, major server vendors aren’t yet offering products with SBS 2011 Essentials installed (though they likely will before long). An alternative to purchasing a server with SBS 2011 Essentials included is to buy one without an operating system and pick up a copy of the software separately to install yourself.

A good choice for a basic server is the HP ProLiant MicroServer (\$329; [www.hp.com](http://www.hp.com)), which is small and quiet, reasonably powerful, and relatively inexpensive.

You’ll find the SBS 2011 Essentials software for about \$400 from a variety of online vendors. If you’d like to take SBS 2011 Essentials for a spin before buying it, download a 60-day trial version from [tinyurl.com/4n63qw2](http://tinyurl.com/4n63qw2). You can extend the trial period twice for a total of 240 days (visit [support.microsoft.com/kb/948472](http://support.microsoft.com/kb/948472) to see how) and



To set up a computer for use with the server, point its browser to `http://<servername>/connect`.



convert the trial version to a licensed copy if you decide to keep it. (The steps outlined below apply whether you're working with the evaluation or purchased copy.)

In addition to your server computer, you'll also want to get a UPS (uninterruptible power supply), an Internet connection via a UPnP (Universal Plug and Play)-compatible broadband router, and for backup purposes, an external hard drive (USB, eSATA, or Firewire) with storage capacity equal to or greater than your server.

The computers you connect to your SBS 2011 Essentials server can be running any version of Windows 7, Vista, or WinXP, including Home and Starter editions, or Mac systems running OS X 10.5 or higher. (This article focuses on setting up Win7 systems.)

## Install SBS 2011 Essentials

Before installing SBS 2011 Essentials (which we'll just call SBS from now on) on a server, be sure it has a wired Ethernet connection to your router and is plugged into the UPS—you don't want the server to lose power, particularly during the lengthy setup process. Also, be sure there aren't any external hard drives attached to the server just yet because they can cause the installation to fail.

To install SBS, you must boot the server directly from the operating system DVD, so turn on your server and immediately look for a boot/startup menu option (often F2, F10, or F12) that will let you do this. When the SBS setup wizard starts, choose New Installation, verify that your server's hard drives have been detected, and then click Install. SBS will carve out a 60GB partition on the primary hard drive for the operating system, and the remaining space/drives will be available to store your data. If the wizard doesn't detect any or all of your server's hard drives, you'll need to click the Load Drivers button and provide a disc that contains the necessary drivers.

At this point the wizard will start copying files, and when it's finished, SBS configuration can begin.

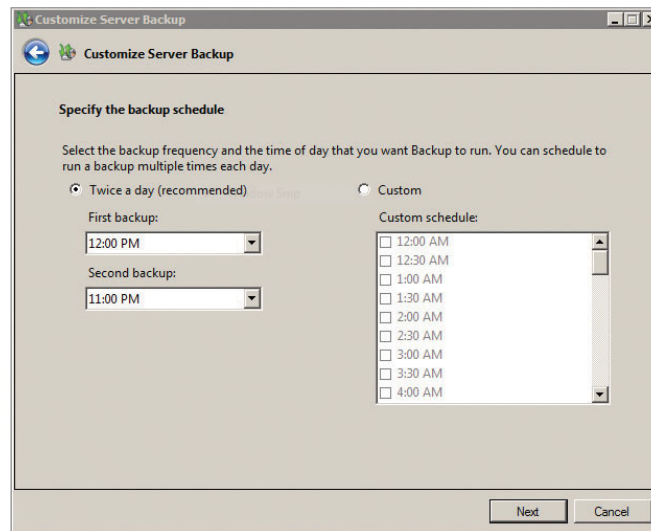
## Initial SBS Configuration

The SBS setup wizard will now walk you through a number of basic server configuration steps. You'll be asked to set the server's date and time and enter your operating system license key (if you don't have one yet, you can skip it for now). Then the wizard

will prompt you to enter your company's name, choose an internal domain name for your network, and name your server.

Next up is to create a pair of user accounts. The first is an administrator account, which will only be used to manage the server. The second is your standard user account, which you'll use to log in to the server for normal day-to-day activities such as accessing files, etc. (We'll tell you how to set up additional user accounts later.) Note that SBS 2011 Essentials requires the use of strong passwords by default, so it will tell you if the passwords you choose for either of your accounts don't make the grade.

After you specify your server's automatic update options (it's a good idea to let the server update itself so it always has the latest security patches, etc.), SBS will begin configuring itself in a process that can take 30



Don't forget to configure server backup; once you specify an external hard drive, SBS will automatically back itself up twice a day.

minutes or longer and will involve several automatic reboots.

When the wizard is complete, your server will greet you with the Windows Desktop sporting wallpaper that warns against using the system as a general purpose

workstation. In fact, you generally won't need to touch the server at all, because SBS is designed to be remotely managed from a PC via a Dashboard app.

Log off the server now; it's time to connect your first computer to the server, after which we'll be able to continue with server configuration.

## Connect Your First Computer

Go to your desktop or laptop, open your Internet browser, type `http://<servername>/connect` in the Address bar (where `<servername>` is the name you gave your server earlier), and click the link to install either the Windows or Mac software as appropriate. (Use the Run option rather than Save). If the above URL doesn't work, open Windows Explorer and look for your SBS server under Network. Double-click it, and it should automatically open your browser to the appropriate page.

When you run the connection software, it will install any necessary components your computer may be missing. Like the



server installation, this process can take some time, and it will require at least one reboot. You'll eventually be asked to provide the login information for your user account on the server—this is where you'll enter the username and password you created for the standard account.

After a reboot, you'll get a few more questions, including whether you want to move your existing Windows account documents and settings from your existing Windows account to your new server account. (Unless you are setting up a brand-new computer, the answer should be yes.)

When all is said and done, press CTRL-ALT-DELETE and log in to your server for the first time. After you log in, you'll see shortcuts to the Launchpad and Dashboard applications on your Desktop. Launchpad puts various aspects of your server within easy reach, including shared folders, remote access, and the Dashboard, where remote server management is performed.

There are a couple more things we need to configure on the server, so launch the Dashboard and log in using the server's administrator account. Beneath a row of tabs for managing users, computers, and server folders/hard drives, you'll see a list of Getting Started tasks to perform (the check marks will turn green as each task is completed).

### Configure Server Backup & Remote Web Access

Because you'll be storing all your important business data on this server, it's critical that you configure server backups ASAP. To do so, connect your external hard drive to the server and

then click Set Up Server Backup. Proceed through the wizard to choose your backup drive (it will be formatted, so be sure it doesn't contain any data you want to keep), and customize the backups if desired, though the default settings are fine SBS will automatically back up the entire server twice a day, at noon and 11 p.m. If you want the ability to access the Dashboard, your server's data, and remotely control your computers from outside the office, you should set up the SBS Remote Web Access feature. Click Set Up Remote Web Access and then click the Turn On button to start the configuration wizard. SBS should be able to configure a UPnP router automatically, then it will give you the option to set up a domain name for free through Microsoft's Windows Live service. If you prefer, you can opt to buy a dedicated domain name from a list of third-party providers or

use a domain name you already own.

### Create User Accounts & Shared Folders

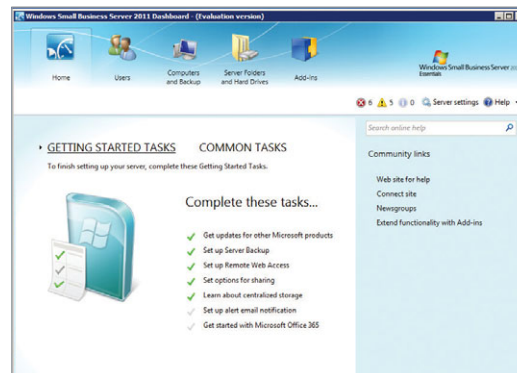
You need to create accounts for additional users before you can set up their computers. To do so, click Common Tasks in the Dashboard and choose Add A User Account. Here, you'll be able to create an account name and password, grant permissions to the company data folder (a personal data folder will also be created), and decide whether the person can use Remote Web Access. Once all of your users have accounts on the server, you can go to their respective computers and run the connect procedure just as you did with your own system.

In addition to users' individual data folders, which are found within the Users folder, SBS sets up a shared folder called Company where you can store all your business data. To create additional folders, use the Add A Shared Folder link under Common Tasks (you'll be able to customize access to the folder for each of your user accounts).

### What's Missing

There are some features SBS 2011 Essentials doesn't offer, such as an email server and the ability to maintain a public Web site for your business, but these are things most small businesses get from hosting providers anyway. It's worth noting that Microsoft plans to integrate its Office 365 online subscription suite with SBS 2011 Essentials in the near future.

If you're currently trying to manage and protect your business data on collection of individual computers, you'll find the task much easier with Small Business Server 2011 Essentials. ■



All server configuration and management is performed from a PC through the Dashboard.



The Launchpad offers convenient access to server features and shared folders.



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# Quick Tips

## SECRETS FOR SUCCEEDING IN COMMON TASKS

### ■ RAID

**Question:** How do I get SATA hard drives from a discarded work server to work on my home office PC? I connected several drives from the old server's RAID group, but the desktop PC tells me that

I need to reformat those drives. Why?

**Answer:** The key is the RAID (redundant array of independent disks) adapter that you mentioned. RAID is a technology that helps guard against disk failures by

duplicating data between redundant disks, spreading (interleaving)

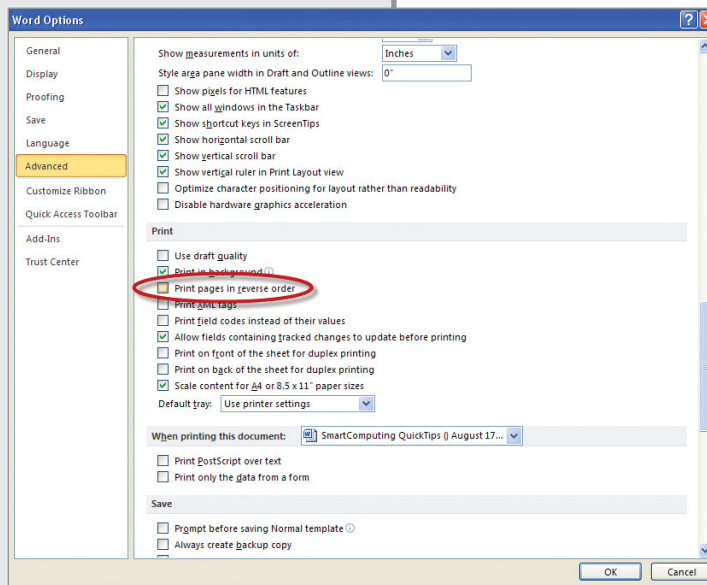
data across multiple disks, and using parity (error correction) techniques to spot and resolve disk errors. A RAID controller handles drives a bit differently than a conventional drive controller. When you connect the drives directly to a SATA controller on your home office PC, the system probably won't recognize the disks formatted through the RAID controller.

The best thing to do is simply reformat the drives as your operating system suggested. That shouldn't be a problem for you as you won't need the old data that's on those drives anyway.

### ■ Printing

**Question:** I use Microsoft Word to print documents. My printed pages stack up so the last page is first. How do I reverse the print order?

**Answer:** The way your printer delivers printed pages (face up or face down) affects whether your multi-page documents are in order when you pick them up—or whether you need to recollate the pages by hand. Word 2010 lets you reverse the print order so that pages print in the correct order (if they aren't already). Launch Word and click the blue File tab in the top-left corner. Click the Options entry in the left menu bar and select the Advanced options. Scroll down to the Print area and check the Print Pages In Reverse Order box. Now click OK to save your changes and try printing again. The print job should wind up in the correct order this time.



Use the Print options in Word 2010 to reverse the page order if your pages aren't printing in the order you expect.

### ■ Hard Drive

**Question:** I'm discarding my old PC. How can I guarantee that all of my personal data on the hard drive is destroyed forever?

**Answer:** There are a few options that you can choose

from. The least intrusive option is to use a drive scrubbing program to "erase" the hard drive's contents by overwriting the data enough to make it unrecognizable. Such software can wipe the contents of your hard drive without physically damaging the drive itself.

Another way is to physically remove the drive and have it destroyed. Businesses use shredding services that provide the equipment (and sometimes the personnel) to pulverize unneeded hard drives and other media such as CDs and DVDs. These services often create videos of the drive disposal process so businesses have proof of destruction to meet security requirements.



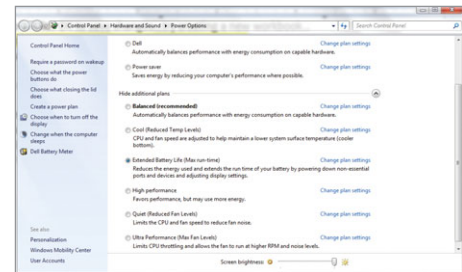
## QUICK TIPS: SECRETS FOR SUCCEEDING IN COMMON TASKS

## ■ Battery Life

**Question:** How can I get maximum battery life from my laptop's power plan?

**Answer:** Windows 7 provides a variety of detailed power plans that you can use to optimize performance, reduce battery power, ease fan noise, and so on. Start up the laptop normally, click the battery icon in the System Tray, and then click More Power Options; the

Power Options window should appear. Click the Show Additional Plans arrow to see a complete list of available plans. Examine the available power plans and look for the Extended Battery Life (Max Run-Time) option. Click the radio button to select that option and close the dialog box. You can repeat this process to select other power plans.



Use Power options to select a profile that best fits the performance needs of your Windows 7 laptop.

## ■ Networking

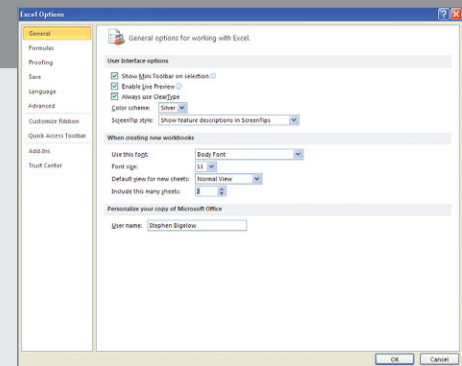
**Question:** How can I identify the PCs using my home network?

**Answer:** Every PC on a home network ultimately connects to a broadband router, which will assign a unique local IP (Internet Protocol) address to each system. The router keeps track of these IP addresses, so the best place to get a complete rundown of your network users is through the router. Today, all routers provide a browser-based interface. Follow the router manufacturer's instructions to log into the router and then look for a Status page or other network reporting pages. You'll usually find a consolidated list of PCs that include the assigned IP address, PC name, and MAC (Media Access Control) address.

## ■ Microsoft Excel

**Question:** Every time I create a new Excel spreadsheet, I get three pages by default. How do I change this to provide just one page in a new workbook?

**Answer:** It's easy to adjust the number of pages that Excel 2010 provides when a new workbook is created. Launch Excel 2010 and click the green File tab in the top-left corner. Click the Options entry in the left menu bar and select the General options. Locate the When Creating New Workbooks area and change the Include This Many Sheets entry to 1. Click OK to save the change and try creating a new workbook. There should only be one sheet provided now.



Microsoft Excel 2010 lets you select the default number of sheets included each time a new workbook is created.

If you find PCs in this list that you cannot identify, there may be unauthorized PCs on the network. For example, neighbors may be connecting.

## ■ Hard Drive

**Question:** I have a SATA drive from an old laptop that I want to reuse as an external drive. Is there a way to connect it to my computer's USB port?

**Answer:** If you have a desktop with an internal SATA (Serial Advanced Technology Attachment) hard drive, it's a simple matter to plug the old laptop SATA drive on an open

desktop SATA port, but that requires an internal installation and a SATA cable. Another way to recycle your old laptop's drive is to use a SATA-to-USB adapter. Just connect the SATA end to the old hard drive's SATA port and plug the USB end into any USB port on the new PC. The PC will recognize the hard drive, though you may need to repartition and/or reformat the old drive before storing files on it.

# Adobe Acrobat X Pro

## Digital IDs 101

Document  
Management  
Intermediate  
How-To

**E**arlier this year, we discussed the various ways in which Acrobat X allows users to digitally sign a PDF (Portable Document Format). Although many of these methods work well for more casual purposes, a digital ID—backed up with a certificate from a trusted third party—offers the security and validity that larger businesses and legal transactions may require.

### One ID, Two Keys

There are two parts to a digital ID: a certificate and a private key. Think of them as two halves of a whole that, after being separated at signing, are reunited later to confirm an identity. The certificate includes your personal information (such as name and date) and a public key. The certificate and public key are linked and approved by a third-party CA (certificate authority).

When you apply a digital signature to a document, you are using the private key half of your digital ID. Then, you distribute the certificate that contains your public key to the recipients who need to validate your signature or encrypt information for you. Others can encrypt information using your public key, but only your private key will unlock that information, so be sure to carefully protect your digital ID.

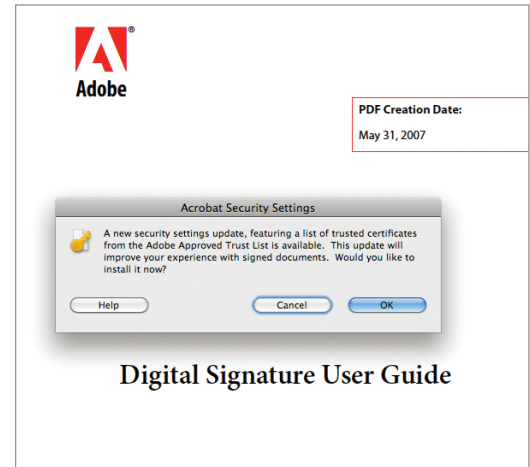
### ID, Please

To get a digital ID of your very own, you'll have to consult a third-party CA. The CA you choose should be well-known and trusted by major companies online, as this is the entity that will be vouching for your identity.

For example, VeriSign Authentication Services ([www.verisign.com](http://www.verisign.com)), which is now owned by Symantec, is one of the most widely recognized symbols of trust on the Internet. Although most of the big-name CAs will charge a fee, some lesser-known entities will not. Feel free to search for what suits you best, but keep in mind that name recognition and proven market stability are what you're after here, and that may not always come cheap.

### Trusted Identities List

Once you have your certified digital ID, you will need to pass this certification information



Adobe's Approved Trust List is periodically updated to provide its users with a basic level of trust: Any digital ID created with a connection to the certificates on this list is good to go.

around to the people with whom you will be exchanging secure documents. They, in turn, will ask you to accept their certified digital IDs. Most home users will be able to manage this exchange through email or by simply embedding the necessary certificate information into a secured document. Users in a larger business setting, however, will likely use a directory server that manages a company's trusted certificates list.

When you open a document with embedded certificate information, Adobe asks you to verify the sender's authenticity by accepting his security certificate. In this way, you will accumulate a list of trusted users. You can easily manage these certificates using the Manage Trusted Identities dialog box. Get there by clicking Tools, Sign & Certify, More Sign & Certify, and Manage Trusted Identities.

### Multiple Personalities, One Real You

For those of you who often juggle different responsibilities in different roles, you can create and maintain different digital IDs. Each ID would have a different password, and they could all be stored in a password-protected file. Adobe provides the functionality; all you have to do is remember the correct password. ■



# When a computer breaks down, everyone looks to you for the solution.

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# Find It Online

### Vimeo Video School

[vimeo.com/videoschool/lessons](http://vimeo.com/videoschool/lessons)

Anyone can pick up a digital camera or video camera and start capturing images and video. The quality of what's captured, however, can differ dramatically depending on who is behind the lens and how much knowledge and expertise he has concerning the equipment. Whether shooting videos for a business' Web site or social network page, you can gain plenty of knowledge while honing your video-shooting craft attending the Vimeo Video School. Presented by the folks who operate the video-sharing Vimeo Web site, the online Video School consists of tutorials featuring funny but informative video clips demonstrating various topics. The school's latest tutorial at press time is a multiple-episode series called "Behind The Glass" that teaches viewers about lenses, depth of field, focal length, and more. Other lessons available deal with zooming vs. moving a camera, batteries, tripods, cleaning lenses, and points of view.

### Focus

[www.focus.com](http://www.focus.com)

If you lack focus where information technology, human resources, marketing, recruiting, career development, or other areas related to business are concerned, a bevy of information and experience awaits at Focus, an online service that helps users "connect with the world's leading business experts." The site provides three methods for connecting, including a Q&A section where you can ask Focus Experts questions and get "near-instant answers to specific business questions." Focus Research, meanwhile, provides data and insights from business experts, including CEOs. Elsewhere, Events provides the means to interact with experts via roundtable discussions, Web casts, summits, and other forms of interaction. Upon signing up for a free membership, you can select topics to follow and receive updates on a personal home page as they occur. You'll also receive suggested experts and topics

to follow and details about events related to your interests.

### XYDO

[www.xydo.com](http://www.xydo.com)

The easiest way to describe XYDO may be as a social network that's focused on news and that tailors that news to your interests. For example, upon creating a free account, you can choose to authenticate your Twitter and Facebook accounts and receive personalized news stemming from your friends and connections. You can also opt to receive a daily email containing the top five articles from your connections and communities. To establish an account, XYDO searches for friends already using XYDO, suggests communities to join based on articles you've previously shared, and completes a Personalized Feed that contains news that friends have shared. The subsequent results are placed on a personal Your News page containing feeds gathered from thousands of online sources that publish news, blogs, editorials, features, and other information you can access per What's Hot, Top, Newest, and Discussions tabs. General News categories, meanwhile, include Small Business, Startups, Advertising & Marketing, Search Engine Optimization, Entrepreneur, and more.

### Kibin

[www.kibin.com](http://www.kibin.com)

The way Kibin sees it, "editing services are a dime a dozen." What differentiates Kibin from others is that instead of providing a staff of editors, it relies on a community of editors to review text documents users upload. Return the favor by editing someone else's text, and using the service is free. If you'd rather not edit another user's work, you can purchase edit credits that start at 1 cent per word and receive your edits within 24 hours. (For faster service expect to pay more.) In addition to a Kibin community member scouring your document, a Kibin administrator checks it as well for quality. To start the editing process, you just need to upload your text to the site. Kibin uses a proprietary platform for editing



that consists of comment, modifying, and strikeout options. Accepting corrections and suggestions, however, is up to you, as editors don't actually revise the final text. Although the site doesn't allow for requesting specific editors as of yet, you can view top-rated editors and how many reviews editors have completed.

### Jig

[www.jig.com](http://www.jig.com)

If you've ever used Delicious ([www.delicious.com](http://www.delicious.com)), the social bookmarking Web site that millions of people use daily, you'll want to give Jig a look. That's because Delicious founder Joshua Schachter is onboard as Jig's CEO, and Jig has a similar look and feel to Delicious. Overall, Jig aims to put "the useful back into social software" by helping users gain solutions to "needs." Sounds simple enough, and it is. Using just a few words to describe a particular need, Jig users have sought and received solutions for everything from "help with neighbor's barking dog" to "some ideas on how to affordably advertise my business." Beyond seeking solutions and supplying your own to other users, Jig offers Twitter and Facebook integration and the ability to create a personal profile, agree with others' solutions, add comments, and invite friends to help with solutions. Jig is also experimenting with Affiliations, which involves connecting groups of users.

### MileWise

<https://secured.milewise.com>

MileWise seems to realize something about traveling that many others have also figured out: "If you have rewards in multiple programs (frequent flyer miles, credit cards, hotel points. . .), figuring out how to use them can be a real pain." MileWise seeks to ease this pain by not only detailing various ways to book a flight via miles, points, and cash but by also ranking the most advantageous ways to pay based on price, travel preferences, and rewards you've amassed to help save you money and earn more rewards. MileWise supports more than 300 reward programs and gathers its prices directly

from airlines, Orbitz, and Everbread. Signing up is free, and the site claims to offer "bank-level" SSL (Secure Sockets Layer) and AES (Advanced Encryption Standard) 256-bit encryption security to

safeguard your information. To that end, MileWise can conveniently store all your rewards data (balances, rewards' value, etc.) in one place while sending you warnings when rewards are about to expire. ■

# Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available to download. Each month, we feature highlights from our pickings. This month, we focus on learning how to program code.

### Codecademy

[www.codecademy.com](http://www.codecademy.com)

There are numerous books, Web sites, and other resources those interested in learning how to program code can turn to, but Codecademy claims to be "the easiest way to learn how." That just might be true, as among the site's various positive traits is the extremely user-friendly approach to teaching and the ability to track how friends are progressing to get the competitive juices flowing and keep you motivated. In fact, it was Columbia University student Ryan Bubinski helping fellow student Zach Sims learn the basics of HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets) that helped sow the seeds for Codecademy, which overall aims to provide a "better, more interactive way to learn how to program."

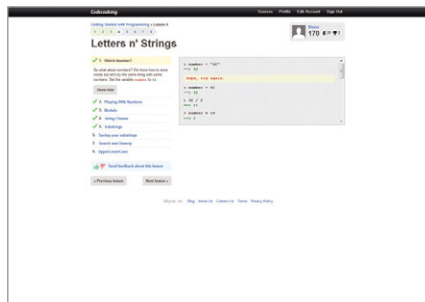
After creating a free account by providing an email address and password or signing in using your Facebook login information, you're presented a profile page where you can chart your progress in completing the site's inaugural eight lessons (Confirm Or Deny, Variables, Letters n' Strings, What If?, etc.) and view the points, achievements, and badges you collect along the way. Further, you can designate who views your page (Only Me, Everyone, Signed In Users) and link to social networks to share information with friends.

Where lessons are concerned, simplicity is the name of the game, and the approach is appreciated. In general, Codecademy uses short, informative blurbs to explain basic principles and logical instructions to walk you through what you're learning. "Fun Facts," meanwhile, add some nice bonus information about what's being taught ("The language you're learning is called JavaScript, the dominant programming language of the Web.")

Although Codecademy is currently limited to eight courses, the site promises more are coming soon. Subscribing to the site's newsletter will let you know

when that occurs. In the meantime, Codecademy won't turn you into a coding master, but it is an excellent interactive and fun entry into the often confusing and overwhelming world of programming code.

Codecademy provides eight courses to help introduce users to programming code.





# Signing Off

## Cancel Your Online Accounts

Every popular online service serves a purpose, and they've all had their day in the sun. Nothing lasts forever, though, and time (not to mention technology) marches on. If you're like most Internet users, the next great thing will sometimes replace what you did before. Alternatively, you may find that your participation in an online community doesn't bring you any value and may even involve negative risks. In short, there eventually comes a time to delete your account. Online services don't always make this process easy. But we'll provide click-by-click instructions for permanently signing off from 11 online services—if you're ready to pull the plug.

**Facebook.** Facebook offers two options: deactivate or permanently delete. Deactivations can be considered a "light delete"; your account disappears from view but can be reactivated at any time by simply logging back in and opting to do so. To deactivate your account, log in at [www.facebook.com](http://www.facebook.com) and access the Account option from the menu at the top of the page. Choose Account Settings and click the Security link in the left menu. Facebook will display a grid full of information with a link at the bottom to Deactivate Your Account. Choose that link, indicate a reason (you'll need to add Comments if you choose Other), and click Confirm. You'll need to enter your password, click Confirm again, then re-enter an on-screen confirmation code

and click Submit. The full delete option is a little more hidden. Go to the Facebook Help Center, also accessible from the Account menu option. Enter "delete account" in the Search box and select the option that appears asking how to permanently delete. Follow the link presented, click Submit, enter your password and on-screen confirmation code, and click Okay. Note that the deletion isn't actually permanent for 14 days, though your account is immediately deactivated for the interim. During that time, you can log in and cancel the deletion if you change your mind.

**Twitter.** Twitter also describes its account removal as a "deactivation," though all data is permanently deleted 30 days after deactivation. Logging in at

[www.twitter.com](http://www.twitter.com) during that time will reactivate the account. From the menu tied to your account name at the top right, click Settings. At the very bottom of the default Account tab, select Deactivate My Account. Review Twitter's advice and, if you want, click the Tell Us link to contact support first. If you're ready to complete the deactivation, click the button labeled Okay, Fine, Deactivate. Re-enter your password and click Deactivate Account.

**Google+.** Google+ is the new social networking site from the online giant. At press time, it's still an invitation-only service and has been closed to new memberships. If you received an early invite but want to delete your account, follow these steps. Log in to your Google+

facebook Search Home Profile Find Friends Account

Are you sure you want to deactivate your account?

Deactivating your account will disable your profile and remove your name and picture from anything you've shared on Facebook.

Reason for leaving (Required):

- ☐ I don't feel safe on Facebook.
- ☐ I spend too much time using Facebook.
- ☐ I have another Facebook account.
- ☐ I don't understand how to use Facebook.
- ☐ I get too many emails, invitations, and requests from Facebook.
- ☐ My account was hacked.
- ☐ I don't find Facebook useful.
- ☐ This is temporary. I'll be back.
- ☐ I have a privacy concern.
- ☐ Other

Please explain further:

Email opt out: ☐ Opt out of receiving future emails from Facebook

Note: Even after you deactivate, your friends can still invite you to events, tag you in photos, or ask you to join groups. If you opt out, you will NOT receive these email invitations and notifications from your friends.

Confirm Cancel

Facebook © 2011 · English (US) About · Advertising · Create a Page · Developers · Careers · Privacy · Terms · Help

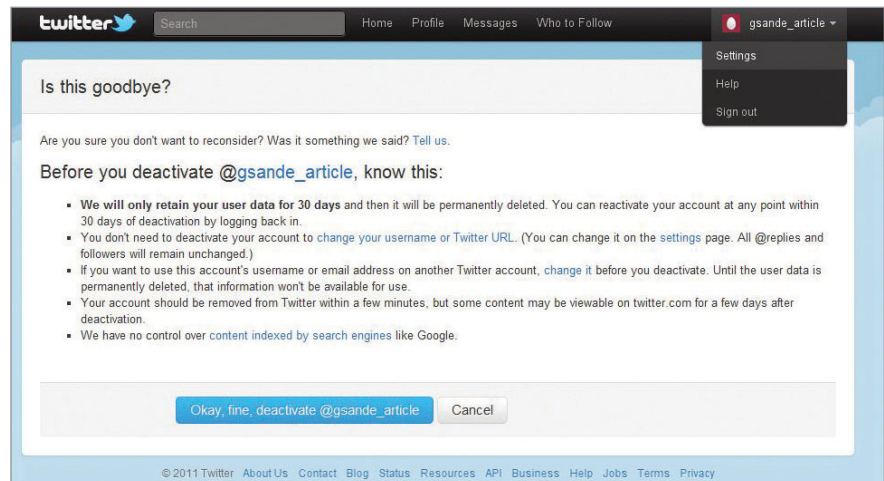
As with many services, Facebook prompts you to provide a reason for leaving.



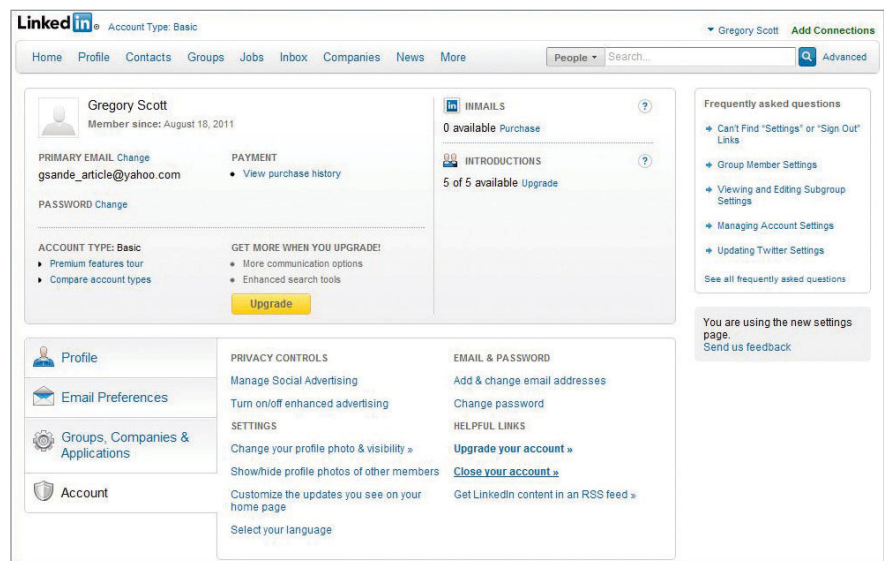
account (plus.google.com), click your name from the top-right menu, and select Account Settings. In the Account Overview menu, find the Services section and click the link to Delete Profile And Remove Associated Social Features. You'll be presented with two options: Delete Google+ Content and Delete Your Entire Google Profile. Unless you want to permanently remove your entire Google profile and all associated services, select the radio button for Delete Google+ Content. Review the information Google presents about what items will and won't be removed, along with timelines, and then check the box labeled Required to indicate you understand what you're doing. Click the Remove Selected Services button. Note that Picasa photos, Gmail and Talk contacts, and connections to third-party services will be unaffected. For now, Google+ deletion is permanent, and you won't be able to create another account until the trial period is over and the service is opened to the public.

**LinkedIn.** Log in at [www.linkedin.com](http://www.linkedin.com), open the menu associated with your name at the top right of the home screen, and select Settings. Click the Account category title at the bottom left of the screen and choose Close Your Account from the list of options. Select one of LinkedIn's radio button reasons or choose Other and type your own. Click Continue and then review your account information and select Verify Account. Review LinkedIn's warnings and caveats about deletion and timelines, and then click Close Account.

**Hotmail.** Free Hotmail accounts now become automatically inactive, with all content deleted after 270 days without logging in. However, if you want to take matters into your own hands immediately, simply log in to your Hotmail account at [www.hotmail.com](http://www.hotmail.com). Open the menu associated with your name at the top right of the screen and click Account. Under the Other Options header, select the Close Your Account link. Enter your password to verify identity and click Yes. This will attempt to close your entire Windows Live account, but won't



Most services are also happy to remind you of all the content that will be irretrievably lost when your account is deleted.



Many options, such as LinkedIn's Close Your Account option, are located several menu selections deep.

let you as long as the Hotmail account is still open. The error message which appears on-screen will provide a link to Close Your Microsoft Account, which actually closes your Hotmail account. Click the link and select the Close Account button on the resulting screen.

**Yahoo! Mail.** Yahoo! maintains an Account Termination Page, but you have to work through the Help resources to access it. From your Yahoo! Mail account (mail.yahoo.com), open the Help menu in the top left of the screen and click Help. Enter "terminate account"

in the Search text box and click Search Help. Select the results asking How Do I Close My Yahoo! Account? From the help article, click the link to the Account Termination page. You'll need to log in again to access the Termination Page and then again at the bottom of the page. Enter the on-screen confirmation code and click Terminate This Account. Note that any information in related Yahoo! services (including Flickr) will also be deleted.

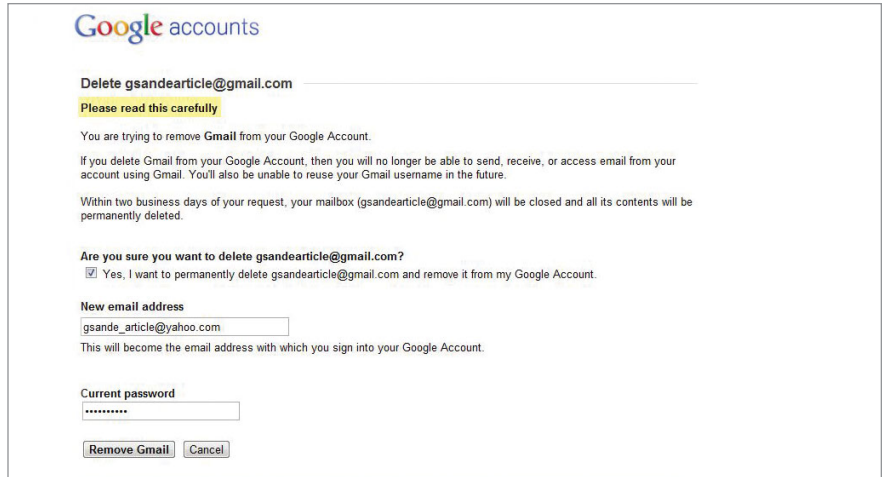
**Gmail.** As with Google+ and other Google services, you can delete your

Gmail account without your overall Google profile and other Google services. First, log in at [www.gmail.com](http://www.gmail.com). Click the gear icon in the top-right corner of the browser and select Mail Settings. Open the Accounts And Import tab and, in the Change Account Settings section, click the Other Google Account Settings link. On the resulting Google Accounts screen, choose the Edit link next to the My Products header. Click the link for Remove Gmail Permanently in the Delete A Product section. Read the warning—deletion is permanent and the username won't be available again. Then click Yes to the "Are You Sure" question and provide another email address with your current password. This will become your new logon to access other Google services. Click Remove Gmail.

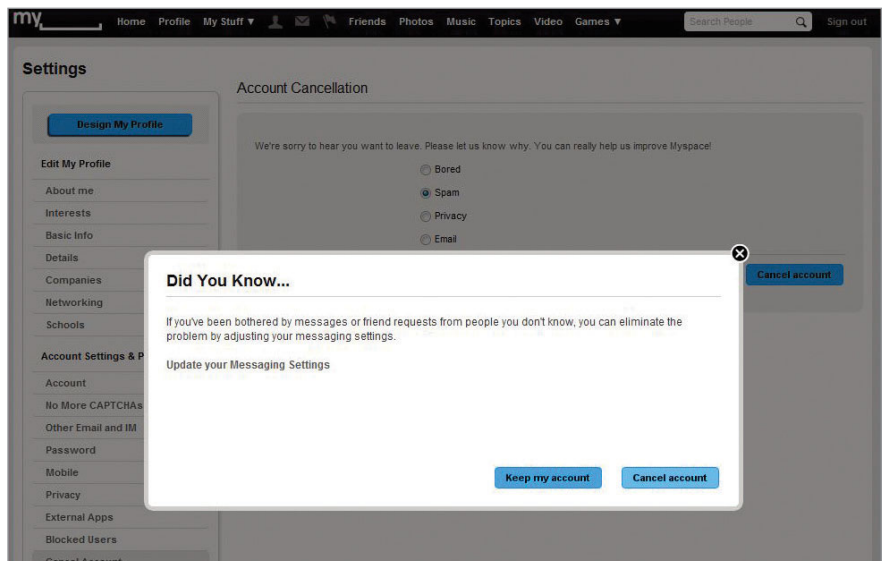
**Meetup.** Meetup, one of the first social networking services, has one of the easiest processes to sign off. Log in at [www.meetup.com](http://www.meetup.com), click the Account link at the top of the screen, and select the Membership & Communication menu option. At the bottom of the screen click the Unsubscribe button, re-enter your password, and click Submit.

**YouTube.** Load the YouTube home page by entering [www.youtube.com](http://www.youtube.com) or clicking the link from Google's home page (under the More menu). Log in and click the expandable menu at the top of the page near your username. From the resulting My Account menu, click Settings. From the menu that loads on the left, click Manage Account. Under the Close Account section, between Change Password and Change Which Google Account Is Linked To This Account, click the Close Account button. Provide a reason and click Close Account again. Note that canceling your YouTube account will also delete any of your uploaded videos.

**Yelp.** Unlike most other online services, Yelp's online account deletion runs through its Contact Us function. Log in to your account at [www.yelp.com](http://www.yelp.com) and, under the Help menu at the bottom of the page, click the Contact Yelp link. Choose Help Me Use Yelp in the first drop-down menu and choose Close My Account as the subtopic. Enter any



Most services, including Gmail, also require you to provide password confirmation before closing the account.



Myspace provides tips on how to alleviate the frustrations associated with common reasons for closing accounts, which require several extra clicks of the Cancel Account button.

comments you care to provide and click Send. You'll receive a confirmation email with a link, which you'll have to click to complete the deletion.

**Myspace.** Log into your Myspace account at [www.myspace.com](http://www.myspace.com) and select Account Settings from the My Stuff menu at the top of the screen. In the Account Settings And Privacy section of the menu to the left of the Account screen, click the Cancel Account link. In the Account Cancellation screen, click the Cancel Account button, select a reason from the

available options (including Bored, Spam, Privacy, and Email), view the advice on how to avoid your concern, and click Cancel Account. Click Cancel Account again, enter Cancellation Comments, and click Cancel Account one more time. Believe it or not, cancellation still isn't complete without email verification. Check your inbox and click the link in the confirmation email from Myspace. This link takes you to another page where you need to log in, confirm your email address, and click Cancel Account one last time. ■





# Find And Manage Duplicate Photos


## *Finding Duplicate Files Is As Easy As 1, 2, 3!*

You may be surprised the first time you run a duplicate photo scan on your computer. The average computer may have hundreds, even thousands, of duplicate images. There are many reasons this occurs.

For example, each time you transfer new photos over from your digital camera to your computer, duplicate photos from a previous transfer session may already be saved on that same computer in a different folder.

Duplicate photos on your computer wastes space, creates a longer backup process, and becomes time consuming when you go to look for a particular file. Easy Duplicate Finder will perform a thorough scan enabling you to find and manage duplicate photos. Periodic usage of Easy Duplicate Finder will keep your computer organized and if you currently pay for a backup service, may even save you money! Plus – Easy Duplicate Finder locates many other types of duplicate files, as shown in the list to the right.

## Features include:

-  Duplicate Photo Finder
-  Duplicate Song Finder
-  Duplicate Outlook Email Finder
-  Duplicate Documents Finder
-  Automated Scanning Wizard
-  Comprehensive Reports
-  Easy to Use Interface
-  Duplicate Selection Manager

*Easy Duplicate Finder works with:*

 **easyDuplicateFinder™**  
[www.easyduplicatefinder.com/smartcomputing](http://www.easyduplicatefinder.com/smartcomputing)



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## Readers' Tips

### Send Us Your Tips

Don't keep that great computing trick all to yourself! Share it with your fellow *Smart Computing* readers by sending a quick note to [readertips@smartcomputing.com](mailto:readertips@smartcomputing.com).

Have you come across a fast, easy way to solve a computing problem? We'd love to hear about it! If you have a great tip you'd like to share with *Smart Computing's* readers, just email it to us at [readertips@smartcomputing.com](mailto:readertips@smartcomputing.com). Please include your first name, last name, and address so that we can give you credit if we print the tip. Try to limit your tip to 200 words or fewer. Not all tips received will be printed, and tips will be edited for length and clarity.



# Short & Simple Tips To Make Things Easier

### Email Tip

I often receive email messages that I would like to send to other people. However, I find I'm annoyed with messages that have been forwarded several times, because they have long vertical lines in the text that cause the content to be indented. To remove the extraneous material, I usually attempt to copy the text and paste it into a new message. But I've run into problems when doing so in Microsoft Outlook. The solution I found was that I need to click Reply (to the sender), so that I can copy the photo or image and paste the items into a new message. After that I delete the original message, so that I can send a "clean" copy to my intended recipients.

Kirk M., Castle Rock, Colo.

### Internet Explorer 9 Security

The newest version of Internet Explorer includes features that are designed to better protect you from malware attacks. Reader Vic Kiviat described several of IE9's new security features. First off, the Application Reputation system, which provides pop-up information about file downloads, helps to provide a warning when dealing downloadable content. Microsoft's reputation database will show you red warnings if the download is known to offer malicious content. Another helpful feature is Tracking Protection, which is designed to block the third-party tracking of your PC from Web sites. Visit [tinyurl.com/3cgvejv](http://tinyurl.com/3cgvejv) to find a Tracking Protection List from one of the Microsoft supported providers.

Victor K., Bowie, Md.

### Username & Password Advice

I have a tip for users who need to remember their login names and passwords—whether for work or home. I use a spreadsheet program to keep track of the name of the Web site (or company), username, and password. For (some, though not foolproof) security, I also password protect this file, so that others can't open it. Using this method, I don't need to sort through a pile of papers to find the username and password I need. I save a copy of this file on a flash drive too, so I have a copy if my computer crashes.

Megan S., Watertown, Wis.

### Alphabetize Your Program Folders

I'm following up on a *Smart Computing* tip about alphabetizing content in folders. I save a large number of videos, images, and written content in a folder titled VGV (short for videos, graphics, and verse) to make the multimedia easy to find when needed. However, each time I saved a file, it ended up a long way down in the folder, so I'd need to scroll to find it. To quicken the process, I decided to put ABC in front of videos, an AC in front of graphics, and an AD in front of verse. Now, I can look through the initial code to break down contents of the folder.

Name not disclosed

### Defeat The Dirt

We have multiple cats in our household and we've found that pet fur can easily clog filters and jam fans. An easy way to reduce the need for frequent cleaning is to put the PCs on a stand, because you'll reduce what gets sucked in through the PC's fan. Even a 6- or 12-inch elevation raises the intake levels above most house debris.

Gabriel G., Falls Church, Va.





CarMD® Vehicle Health System™ | \$119.85 | [www.carmd.com](http://www.carmd.com)

## CarMD®: Because Vehicle Repair Shouldn't Be *Scary!*

Anyone who owns a car or truck knows that the car repair process can be scary. How severe is the problem? What will it cost to repair? How long will I be without a vehicle? Thanks to the award-winning CarMD® Vehicle Health System™, now virtually everyone who owns a vehicle can quickly and easily catch hidden problems before they cost big bucks in repairs.

### How It Works

When your car's "Check Engine" light appears, or even before, plug the CarMD handheld device into your vehicle's Data Link Connector (DLC). The DLC is a small port found right under the dashboard on all 1996 and newer vehicles. It's the same place your mechanic plugs in his expensive diagnostic tools. Not sure where to look? Visit [www.CarMD.com](http://www.CarMD.com) to search by year, make, and model.

In seconds, CarMD beeps to confirm the test is complete. Then the tool's built-in LEDs let you know how severe the problem is (Green = OK, yellow = possible problem, red = service required). A yellow light can even help you catch a hidden engine problem before you're miles into your next road trip.

To learn more about your car's problem, connect CarMD to your computer using the included software and USB cable. CarMD customers gain free access to an extensive online database ([www.carmd.com](http://www.carmd.com)) that helps diagnose the cause and estimate what repairs should cost down to fair parts and labor in your region. The reports can be used to help do-it-yourselfers with repairs, and give you a bargaining tool with your mechanic.

### Features

The CarMD Vehicle Health System is for both Mac and PC use. CarMD customers also receive Staying Healthy information, including maintenance reminders and FREE access to see all of the safety recalls associated with your registered vehicles.

CarMD also includes lifetime software and firmware updates that mean the CarMD device you purchase today will work on the car or truck you invest in tomorrow. It also includes toll-free (888.MyCarMD) access to Automotive Service Excellence technicians to provide a diagnosis by phone when you can't get to your computer. For more information or to purchase, visit [www.CarMD.com](http://www.CarMD.com). ■

## Halloween Driving Tips

Halloween is one of the most dangerous holidays for motorists. CarMD offers tips to help you drive a little safer:

- Try to leave work or school before dark to allow time to get home before the trick-or-treaters come out.
- Put down those mobile devices.
- Drive at (or below) the speed limit.
- Have your brakes checked. Every second counts when a little ghost or goblin darts out into the street.
- Do a double-take at stop signs, intersections and unmarked areas where kids may be crossing.
- Don't wear masks, heavy makeup, hats or anything that will limit your vision while driving.
- Be careful when pulling into and out of driveways or garages.
- Don't pass a vehicle that's stopped in front of you. There could be children crossing or being dropped off.

Be sure to visit [CarMD.com](http://CarMD.com) year-round for more articles, blogs and videos to promote vehicle health and safety.



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\*U.S. Patents: #6,687,584, #6,941,203, #6,947,816

# Ovation

Each month, the *Smart Computing* staff gets to work with all kinds of new computing and consumer electronics products. Here are some of the most exciting products to cross our desks.

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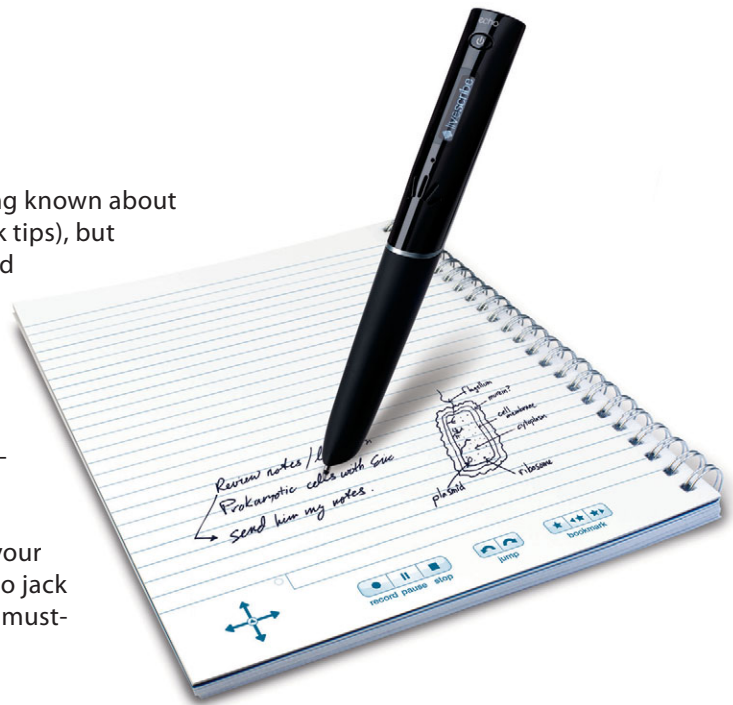
## Echo

\$99 | Livescribe | [www.livescribe.com](http://www.livescribe.com)

Those of us who still prefer pens to keyboards have long known about Livescribe smartpens. They are true pens (they have ink tips), but they also have built-in electronics that record audio and pen strokes.

Jot down your notes on paper, then later, play back the audio by tapping your Echo smartpen on your handwriting. You can play back those same notes on your Mac or PC, or even your iPad, iPhone, or other mobile device.

With this pen in hand, record the notes you write and your conversation with any collaborators. It also has an audio jack for your earphones or headset. The Echo smartpen is a must-have for taking notes in meetings or in class.



## Eco Pod

\$49.99 | Grace Digital Audio | [www.gracedigitalaudio.com](http://www.gracedigitalaudio.com)

If you're biking, camping, hiking, boating, or spending a lazy day at the beach, the Eco Pod can help your devices brave the outdoors. Waterproof and shock-resistant, the Pod works with most smartphones and MP3 players, including the iPhone and iPod. Simply place your device in the Eco Pod, plug the internal audio cable into your device, and close the clear polycarbonate case. Plug headphones into the external 3.5mm jack and crank the volume.

The Eco Pod comes with waterproof headphones (for best audio quality, the company recommends using your current set when waterproofing isn't necessary). The included 2-inch clip is ideal for hooking the Pod to, say, a backpack, and a rear slot lets you attach the case to a belt or the Eco Pod Bike Clamp (sold separately). Even more convenient is an internal storage compartment to keep safe other valuables, such as cash, credit cards, IDs, or keys. For the outdoor enthusiast, the Eco Pod might be your next must-have accessory.



# News From The Help Desk

## Common Tech Questions

**Q** I have been using Internet Explorer 9 for the last couple of days. Today I encountered a problem that I haven't found a solution for. When I click a link, it won't open, and I get a white hand and yellow icon with a red exclamation point.

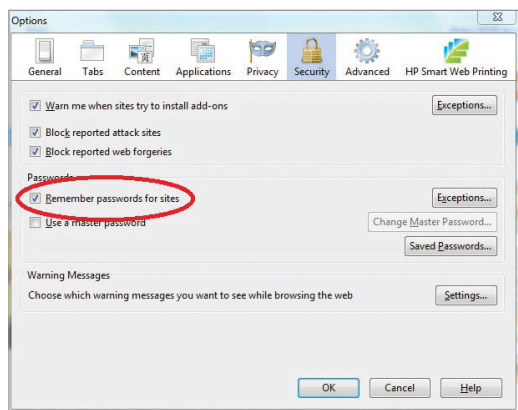
**A** We're guessing you're using the Google Toolbar with IE9. If so, the white hand with the bright yellow star burst and a red exclamation point signals that Google is blocking a pop-up on that page. You'll have to tell Google you want to allow pop-ups on that page to get that icon—and the corresponding clicking sound—to disappear and enable that page to open. To disable the pop-up blocker, locate the pop-up blocker icon on the Google Toolbar. (It looks like three boxes stacked on top of one another and a red circle with a slash across is placed on top.) Click Always Allow Pop-ups From <site name>. That action should eliminate that icon and thus open the Web page for viewing.

**Q** Firefox does not remember passwords even though I have activated this option in the Tools menu. What could be causing this?

**A** As you note, the Mozilla Firefox Internet browser does offer a password manager function that keeps

track of usernames and passwords so you can log on to Web sites automatically. To ensure you've enabled this feature, go to Tools, Options, and Security. Double-check that you've selected the Remember Passwords For Sites checkbox. While you're here, make sure the site you're trying to access is not on the Exceptions list. It's also possible that Firefox is being told to remove saved passwords when you close the browser. Undo this by clicking the Privacy tab in the Options dialog box. In the Firefox Will drop-down menu, look for the Use Custom Settings For History heading and then see if the Clear History When Firefox Closes checkbox is selected. If it is selected, choose Settings and verify that Saved Passwords is not activated. One other possibility is that you're using the Private Browsing feature, which doesn't save new passwords or automatically insert saved passwords. You can end Private Browsing by clicking Tools and choosing Stop Private Browsing. And, finally, there may be one last reason Firefox does not remember your passwords: For security purposes, some Web sites just do not allow passwords to be saved.

**Q** Do I need a PDF reader?



Mozilla Firefox offers a password manager that automatically saves usernames and passwords when logging on to certain Web sites. To be sure you have this feature enabled, from the Firefox toolbar, select Tools, Options, and Security. Select the box labeled Remember Passwords For Sites.



Foxit Reader ([www.foxitsoftware.com](http://www.foxitsoftware.com)) is just one of several free PDF readers. In addition to basic viewing and printing capabilities, it also lets you add images, insert text annotations, and fill forms.

**A** A great feature of a PDF (Portable Document Format) file is that you can generate, save, share, and print a variety of electronic documents, such as user guides, brochures, grant applications, reports, and resumes, that might contain unique formatting features. Many companies offer free PDF reader software that you can easily install on your computer. You can do an online search for “PDF readers” and download the program right from the company’s Web site. Many of the readers perform essentially the same basic functions, such as allowing you to open, view, and print documents that have been saved in the PDF format. Others include features that enhance collaboration, such as sticky notes and highlighting; give you the ability to fill in online forms; and provide an opportunity to take snapshots of text and graphics. Once you’ve downloaded the software you think will be best for your SOHO (small or home office), you’ll be able to view documents that have been created as PDFs and print those documents. Be aware that PDF readers are different from PDF editors, which let you create and edit PDFs. The readers are generally offered as free software, and there is generally a fee for the editors.

**Q** I have several photo programs on my computer. I want to make Microsoft Office 2010 the default program for opening photos. How do I do this?

**A** To select a default program for opening photos, right-click on any photo file. Choose Open With, select Choose Default Program, and click the desired program. When the Open With dialog box appears, select the program you wish to use (in your case, select Microsoft Office Picture Manager) from those listed. Make sure there is a check mark

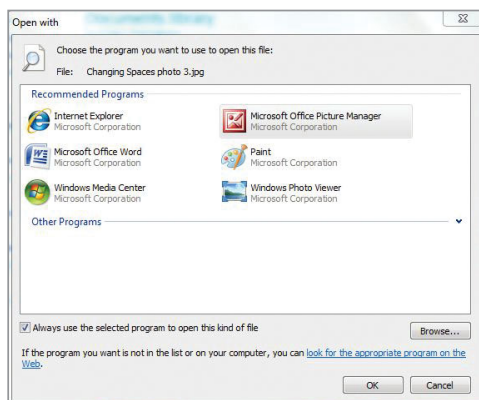
in the box that says Always Use The Selected Program To Open This Kind Of File. Click OK.

**Q** Clicking attachments in emails opens a window, but no data or information is displayed. The pop-up blockers are turned off. What is causing this?

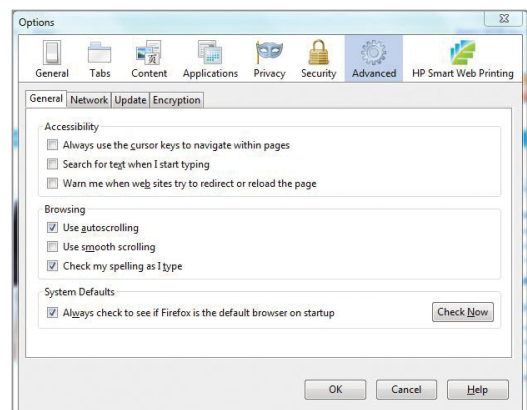
**A** It’s possible that your email program won’t allow you to open attachments because they may have a virus. One way to address this issue is to change the security settings. For purposes of this fix, we’ll use Outlook Express as an example. In Outlook Express, click Tools and Options. When the Options dialog box appears, select the Security tab. Look for the option that says Do Not Allow Attachments To Be Saved Or Opened That Could Potentially Be A Virus. If there is a check mark in the box, remove it. This should let you open attachments. Be aware, however, that this action may leave your computer open to potentially harmful viruses. Make it a practice to never open email attachments from people you don’t know. To protect your SOHO, consider purchasing an antivirus scanner that encompasses emails.

**Q** I want to use Mozilla Firefox as my default browser. How do I configure this?

**A** Open Firefox. Select Tools, Options, and Advanced. Near the bottom of the dialog box, click the Check Now button. If Firefox is not currently your default browser, a Default Browser dialog box appears and says “Firefox is not currently set as your default browser. Would you like to make it your default browser?” Click Yes. ■



From this Open With dialog box, you can select the default program with which to open your photo files.



Click the Check Now button to see if Mozilla Firefox is designated as your default browser.



Logitech's 750i Master System includes an indoor camera, software, and network adapters for connecting into your current LAN. (iPhone not included.)



## How To Install

# A Surveillance System

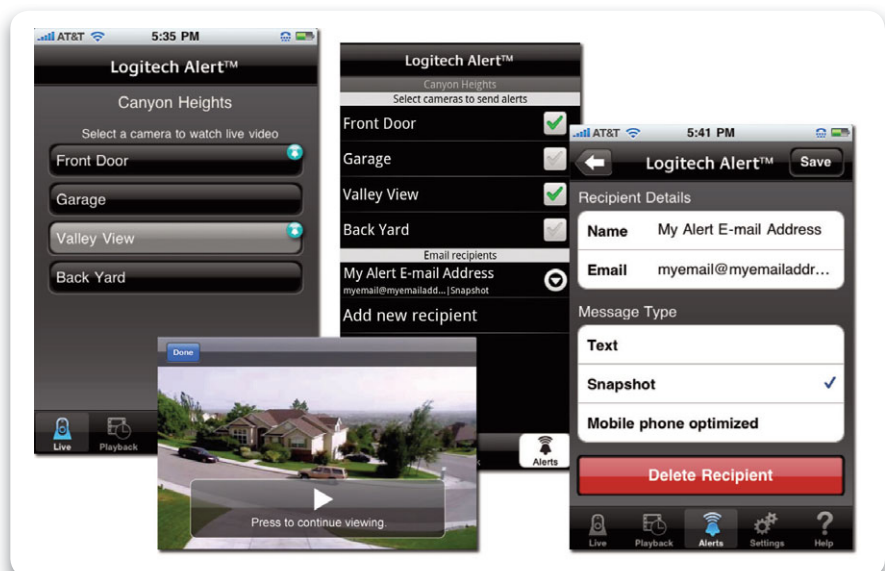
Homes and small businesses have just as much need for physical security as their warehouse and data center counterparts. But smaller organizations may not have the on-staff expertise or budget for a high-end security deployment. If this sounds like your situation, don't worry. There are plenty of affordable ways to set up surveillance in your setting, and it doesn't take a computer scientist to handle the networking.

The first thing to remember is that you'll likely have a much easier deployment, as well as more functionality for less money, if you opt for a surveillance system based on IP (Internet Protocol) networking rather than older, analog CCTV (closed circuit television) technology. CCTV still dominates in many stores, and professional security installers still opt for CCTV as a first choice because it's where they have many years of experience. But you want digital, and we're going to show why by examining a few security options.

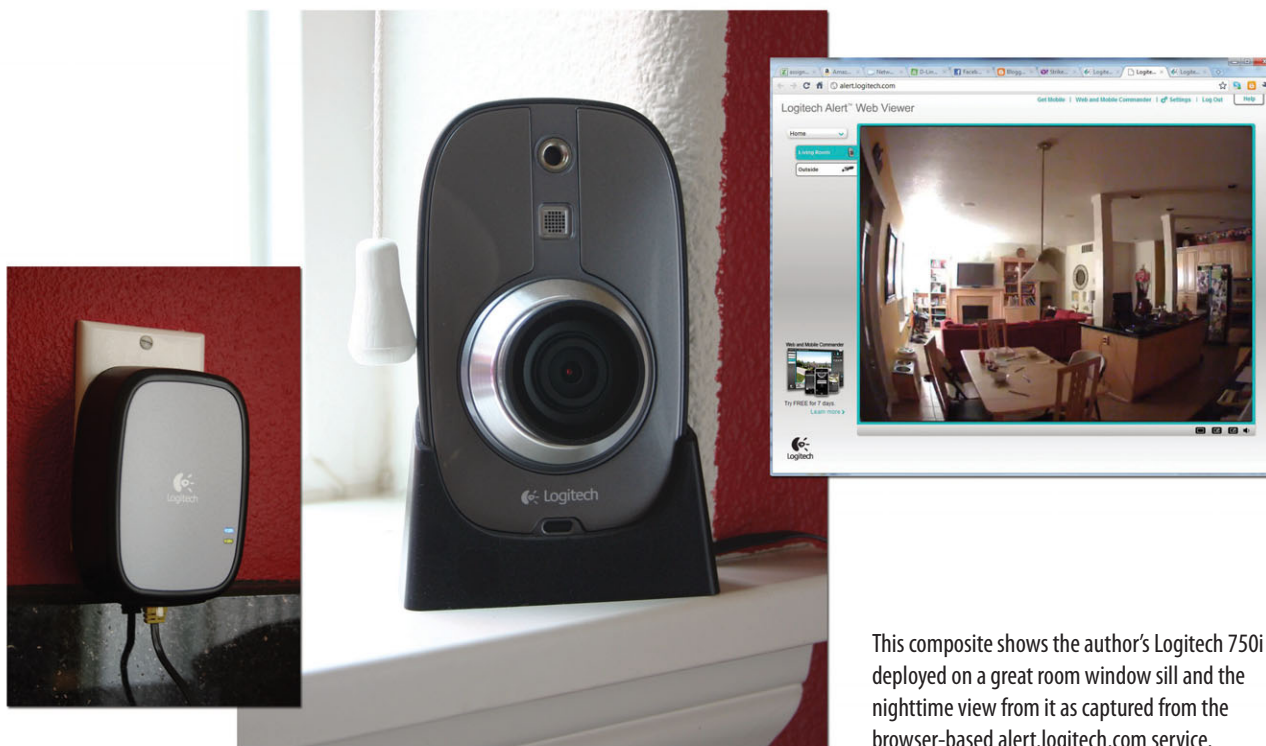
### Elements Of A Solid Surveillance Kit

There are three basic things you want a security package to do:

1. Provide remote visibility into a given area.
2. Detect and record intruders.
3. Alert you through multiple means when intrusion is detected.



Many cutting edge security systems, including Logitech Alert, offer the ability to view and manage surveillance video streams from your smartphone. In practice, we've found this to be one of the most-used features in the systems we've tested.



This composite shows the author's Logitech 750i deployed on a great room window sill and the nighttime view from it as captured from the browser-based alert.logitech.com service.

We'll illustrate each of these three shortly but know that you can have these three things for well under \$200. You can begin with a free surveillance application and a couple of sub-\$100 IP cameras. Ethernet-only cameras cost less than cameras with Ethernet and Wi-Fi, so at this price level, you're probably looking at wired options. The upside of wired is that video streams will be less prone to distortion, dropped frames, and stream interruptions; plus, the setup process is simpler.

However, cheap cameras may not give you all of the functionality you'll eventually want, so let's talk about desirable features.

**Resolution.** If you've ever compared a Blu-ray movie to its VHS equivalent, you know what a difference higher resolution can make. The more resolution (higher pixel count) you have, the more detail you get in a given field of view. If all you care about is seeing if an intruder is in an area, even 320 x 240 resolution will be sufficient. But if you want to

make out the intruder's facial features, you're going to need more pixels.

**Optics.** The quality of the lens can have a significant impact on the surveillance image you see. Unfortunately, quality is subjective, and there are no mainstream ways of grading lens quality in cameras. Still, generally speaking, a \$300 camera will provide better optical quality (and thus better image clarity) than a \$100 camera, all other factors being equal. The quality of the sensor recording images from those optics can also play a role in defining clarity.

**Audio.** A camera with an integrated microphone will let you hear what's being said or done in the camera's environment. Some cameras offer a port for plugging in an external microphone. This usually adds overall cost but can yield superior audio clarity. Also note that some cameras include speakers, enabling two-way conversations between you and the people being observed and/or the playback of a recording in case an intrusion alarm is triggered.

**Movement.** Most low-end cameras are fixed-position. Wherever the lens points, that's what you see. However, many mid-range cameras incorporate motorized panning (side to side) and tilting (up and down) that you can control remotely. When trying to cover a broad area with only one or two cameras, "PT" capability is extremely useful. Higher-end cameras may offer optical zooming, just like on handheld still and video cameras. This feature is most useful in environments that are being actively monitored throughout the day. Note that some cameras may try to emulate PTZ (pan-tilt-zoom) functionality digitally. This involves isolating a central part of an image, then scooting the borders of that cropped area around within the original image. You can't see any additional detail with digital PTZ.

**Remote storage.** When triggered by an alert, some security cameras can store video straight into an inserted flash memory card (usually Secure Digital type). This enables video capture even



if Internet connectivity is lost. Preferably, though, you want to store video away from the camera first, then on the camera as a backup measure. Some cameras can stream recordings straight into an FTP (File Transfer Protocol) site, but most will relay streams back to a PC running some sort of surveillance client application.

**Night vision.** Cameras with excellent sensors may be able to capture clear images in very low light conditions, but in our experience, these are nearly useless for surveillance because shutter speeds become so slow. If the camera is only capturing two frames per second in near-dark conditions, any recorded movement is likely to look like a smear. The better approach is to use a camera with infrared lamps. Infrared is invisible to the eye, but most camera sensors treat it like regular light, so you get greenish/gray night vision footage. Even if your camera doesn't integrate IR lamps, you can always buy a separate IR lamp and point it within the camera's field of view.

### A Simple Sample Setup

For this article, we will use the Logitech (www.logitech.com) Alert series security systems as an example. Logitech does its security cameras a bit differently than most. For starters, whereas most wired cameras use an Ethernet connection to the LAN (local-area network) accompanied by an AC adapter for power, Logitech uses a single cable that plugs into any nearby power socket. Of course, electricity flows over the power lines running through walls and into sockets, but if you think of those power lines as tubes, only part of the tube is being filled with electricity. The remaining air space (actually unused frequency bandwidth) can carry bi-directional data, such as PTZ control commands or a video stream. This is similar to the Power-over-Ethernet technology used in many enterprise security cameras, although it's technically a HomePlug AV device.

Logitech offers the Alert 750i (\$299.99; indoors) or 750e (\$349.99;

outdoors) Master Systems, which include the requisite viewing and management software. Logitech also offers the Alert 700i (\$229.99; indoor) or 700e (\$279.99; outdoor) add-on cameras. We'll use the 750i in our setup example.

First, install the Logitech Alert Commander software on any PCs you wish to have access to your camera streams. Note that Alert Commander will only work with Logitech powerline cameras, not other brands of conventional IP cameras.

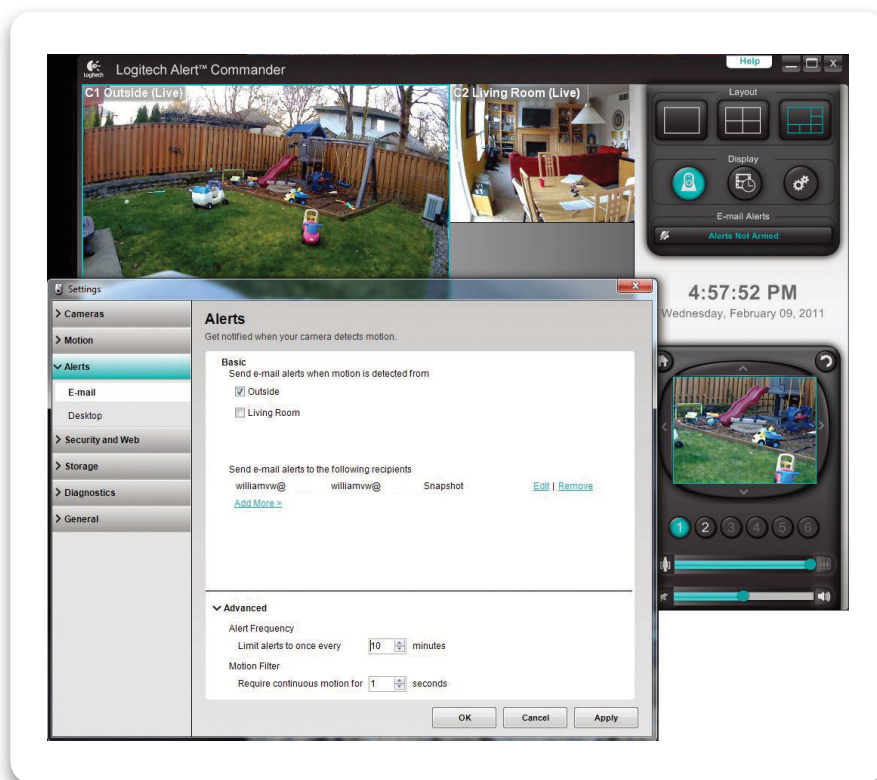
Next, install the bundled thin Ethernet cable into the network adapter (wall wart). Unlike most such devices, you'll need to unscrew a securing cover from the adapter, plug in the cable, screw the cover back on, and then you can plug the power adapter into the wall. The other end of the cable plugs into your existing switch or router.

Now it's time to set up the camera and its own power adapter. As before, you'll need to remove the protective

covers on both the wall wart and camera in order to plug in the cable. While it adds some slight inconvenience to the setup process, we really like this design as a means to help prevent accidental unplugging and cable damage. When you're ready, plug the adapter into the wall electrical socket. The two adapters will automatically begin communicating, effectively turning the power lines between them into a giant LAN extension cord.

The 750i camera has a rather unconventional shape, and it won't stand upright on its own. Instead, you can opt for any of three included methods: an upright cradle, a suction cup for mounting to a window, or a wall/ceiling mount that attaches via four screws into your sheetrock and allows the camera to swivel on its mounting hinge.

As a side note, keep cable lengths in mind when installing the outdoor cameras. We wanted to install the 700e



Logitech Alert Commander provides a fairly simple, intuitive interface for monitoring and managing your surveillance streams.

at the corner of a two-story house under the eaves, but the bundled cabling wasn't long enough. Depending on the positions of your camera and power outlet, you may need to purchase longer Ethernet cables.

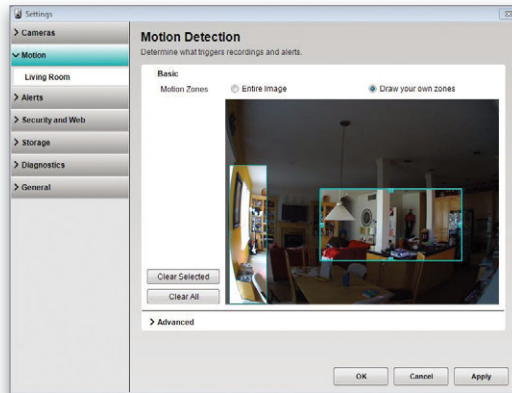
### Working With Alert Commander

Most surveillance apps will give you some degree of freedom in how you view your cameras, define alarm triggers, and receive alarm notifications. The Logitech Alert system supports up to six Logitech cameras, and Commander will let you view one camera at full-screen, a 2x2 grid, or one camera at roughly half-screen surrounded by an L-shape of the other five cameras.

Strangely, the one thing missing in Logitech's software that most other surveillance apps offer is a manual recording button. With Logitech, you need to open the advanced motion settings and set Motion Sensitivity to its highest setting. This way, any movement will trigger recording. By using the drop-down menu that appears when you mouse-over a camera view, you can also save or print the current image frame.

Like most security programs, Alert Commander gives you the ability to define specific zones within a field of view by clicking and dragging your mouse. Say you want to watch for motion around a door or hallway but not the window, which shows moving trees outside. Establishing zones helps make sure that you don't receive a lot of false intrusion alerts.

When a motion alarm is triggered, Commander can display an alarm on your PC's Desktop and email the recipients you specify with text or a snapshot (optionally optimized for mobile phones). Many IP camera systems require you to set up a dynamic DNS (Domain Name System) and perform a few tweaks of your router in order to view live footage from across the Web or from a smartphone. One of Logitech's great conveniences is making this process seamless through the Logitech Alert site ([alert.logitech.com](http://alert.logitech.com)). Here, you can view your camera feeds from a Web browser or get equivalent mobile apps



Establish monitoring zones within your camera's view to improve your surveillance system's accuracy.

for iPhone, Android, or BlackBerry. If you want the same management and playback capabilities found on the desktop app from your remote devices, Logitech charges \$79.95 per year for its Web And Mobile Commander subscription.

### Other Options

The Logitech system is geared for novices and those who want a great blend of moderate cost with total convenience and very good quality. As mentioned earlier, it is possible to begin with a single camera and free surveillance software for well under \$100. Going the other way, we recently had the chance to evaluate Vivint's security and home automation offering. Whereas most conventional home monitoring services are still analog-based, Vivint uses the latest networking tools for a much higher-caliber service.

Vivint's Go!Control touchscreen LCD panel (\$699; [www.vivint.com](http://www.vivint.com)) leverages Z-Wave 900MHz networking to

communicate with your building's wireless LAN and to network any of a range of Vivint security and home automation devices. These include touch code door locks, window break sensors, a climate control pad, surveillance cameras, motion detectors, lighting/small appliance switches, and more. Typically, a professional installer will deploy any purchased devices and perform the networking setup, including making sure that you have Web- and phone-based access to the whole system.

For example, a triggered alarm may indicate that someone is at your front door. You can view a live video feed of the entrance and not only disarm the security system but also unlock the door, all from your phone. The Go!Control pad features a battery backup and connects to a local cellular service provider, averting the risk of a break-in going unreported if the power and broadband lines are cut. Both the control pad and the key fobs include a silent alarm capability, allowing you to call for help even when it looks like you're disarming the system.

Vivint is primarily a security service while Logitech's Alert products are more focused on surveillance. The distinction is an important one for people to consider before making a security investment. With Vivint installations easily running into four figures and monthly subscriptions starting at \$49.99, ongoing cost is a major consideration when weighing options. However, whether you opt for a basic DIY approach or a full-blown security system, you'll find today's offerings more flexible and feature-rich than ever. ■



Vivint offers a wide selection of security and home automation devices, all of which wirelessly connect into the Go!Control pad.



# Tech Talk

Answers to users' most common questions about **Digital SLRs**



Keep in mind  
that DSLRs  
also support  
multiple  
lenses  
(whereas  
pocket  
cameras  
don't).

**H**anding your products to a professional photographer is an easy way to get quality product shots for your Web site, but it can be pricey. If you have a DSLR (digital single-lens reflex) camera and the patience (and time) to learn as you go, you can probably take some serviceable product shots yourself. Read on to get a feel for what's involved in taking your own product photos with a DSLR.

## **Q I'm just taking photos for my Web site. Won't any modern camera do?**

Today's pocket cameras take quality pictures but the professional photographer (the one you're trying to avoid by taking the pictures yourself) likely would have used a DSLR. Thanks to smaller image sensors (among other factors), pocket cameras often take pictures that aren't quite as sharp as those taken by DSLRs.

Whether you need a sharp image depends on your product. If you are shooting a vehicle or equipment from some distance, you may be pleased with the picture quality from a pocket camera. If your product is small or has details that you want customers to see, you'll prefer the crisp pictures that a DSLR provides. You'll also want to consider whether you're putting the images online or in print: the Web is much more forgiving of lower-quality photos than printed material.

Keep in mind that DSLRs also support multiple lenses (whereas pocket cameras don't). You may find that you get your best shots of highly detailed products with a macro lens. DSLRs also give you much more control over settings that affect the quality of the shot. Pocket cameras adjust settings automatically.

## **Q Will I need to take photography classes if I buy a DSLR?**

You can use your DSLR camera's automatic mode to automate setting selection. When your

The Canon EOS Rebel T3i (\$899.99 with 18-55mm IS II lens; [www.canoneos.com](http://www.canoneos.com)) has everything you need to get started. The swiveling display means you can see the image you're about to capture, even when you need to hold the camera at unusual angles.

camera is in Automatic mode, taking a photo with it is no different than taking a photo with a pocket camera: Point the camera at the product, press the shutter button about halfway (until the camera focuses) and then press the shutter button all the way. That's all there is to it.

Of course, manually adjusting your camera's settings will give you much more control over the picture. If you want to create an out-of-focus background, for example, you'll need to understand settings that you probably didn't even consider when using your pocket camera. The more you learn about photography, the better your product photos will be.

## **Q What are shooting modes?**

If you want to venture outside your camera's automatic mode, start by turning the mode dial, which is typically at the top of the camera. A green box indicates that your camera is in automatic mode.

**Manual Mode.** Often represented by an M, this mode gives you full control of the camera's features. Professional photographers often use this mode.

**Aperture Priority Mode.** This is a particularly useful mode for shooting products, as it gives you control over the depth-of-field. This mode, which is often represented by an A or AV, lets you create blurry backgrounds that draw one's attention right to the product, which looks crisp and fresh in comparison.

**Shutter Priority Mode.** Represented by an S or TV, this mode helps users catch moving objects without the blurriness that would otherwise occur. Moving objects appear frozen in these images.

Most DSLRs also have scene settings that will help you take quality pictures under specific circumstances. Typical scenes include modes for shooting in low- or bright-light conditions, shooting moving objects, and take portrait pictures. A professional will prefer to handle the settings himself, but you can use these built-in settings to improve your chances of getting quality photos. Once you turn the dial to the scene setting, you'll need to use the camera's navigation pad or similar controls to cycle through the camera's scenes.

An easy way to find the settings that work for you is to choose an object (such as your product) and then shoot it multiple times, trying a new setting each time. If you are indoors, you can attribute changes to image brightness and clarity to the camera's settings, rather than clouds passing overhead.

Between shots, check out the camera's LCD display, which briefly displays the image after a photo (and gives you information about the camera's current settings before you take a photo). This trial-and-error approach requires patience, but will help you familiarize yourself with the camera's capabilities.

### **Q** Do I need a tripod?

Holding your camera leads to a certain amount of shaking, which can blur the picture just enough to take the pop out of your photo. Many camera lenses have built-in image stabilization controls that counter ordinary camera shake, but tripods offer excellent stability. (Tripods generally attach to your camera via a screw that matches a hole at the bottom of your camera.) And if your camera supports a remote shutter release, consider adding the remote to your gear. The remote lets you take pictures without pressing the shutter button (an act that can cause a certain amount of shake).

Another benefit of the tripod is that the stand ensures your camera won't move between shots. If you hold the camera, on the other hand, you'll take each picture from a (slightly) different place than your last shot. Some tripods have built-in levels that help you avoid angling your camera. The level is a handy feature, but not a critical one; you can use photo-editing software to easily straighten images. (But keep in mind that the software will need to crop a portion of the image to straighten it.)



Tripods stabilize your camera for crisp photos. A flexible tripod, such as the ToCAD Sunpak FlexPod Gripper (\$14.95-\$19.95; sunpak.com), stands on flat surfaces or bends to grip other objects.

### **Q** I plan to keep the camera at the office. Should I bother with a case?

Leaving your camera exposed to spills (or being knocked off a desk) could shorten the camera's lifespan, so we recommend investing in a case. Many cases are designed to accommodate the camera with an attached lens, which is perfect for someone who changes lenses infrequently. The less often you remove your camera's lens, the fewer chances for dust to find its way into your camera.

### **Q** What should I know about buying a memory card?

If you plan to use the camera only to take pictures of your products, memory card specifications will matter less to you than to someone who takes the camera on the road. After all, you're shooting in reasonably good conditions: you don't have to worry about weather or other problems beyond your control. Even so, it pays to understand the important specs.



Many DSLR cases, such as this Lowepro Nova 160 All Weather (\$64.99; products.lowpro.com) let you store the camera with a lens attached.



Today's DSLRs are pretty tough, but they're not unbreakable. Invest in a case with heavy padding, such as the Ape Case ACPRO1400 by Norazza (\$89.99; [www.apecase.com](http://www.apecase.com)).



Some of the most common camera memory cards are the SDHC (Secure Digital High Capacity) and SDXC (Secure Digital Extended Capacity) cards. SDXC cards are available in sizes over 32GB.

**Capacity.** A memory card stores the photos and videos you shoot with your camera, so its storage capacity is one of the most important things to consider when you're shopping. Lower capacity cards, such as 2GB and 4GB cards, are inexpensive. But, they won't store nearly as many photos as a 16GB card. Capacity is the most important specification to consider if you're planning to take product shots.



**Class.** If you sometimes use your camera to record HD (high definition) video, you'll want to pay attention to the memory card's class, which is indicated by an even number on the front of the many SD cards. Available classes (in order of ascending speed) are 2, 4, 6, 8, and 10. Classes 4 and higher should support HD recording, while cards that meet the new UHS (Ultra High Speed) specification are considered particularly well-suited to recording video.

If you plan to take multiple shots quickly (via your camera's burst mode), the card's speed also matters to you. Faster speeds are better suited to burst mode shooting, as they let your camera write large file formats (such as RAW). If your product is one that will sit still while you shoot, speed

A quality DSLR, such as the Nikon D5100 (\$899.95 with 18-55mm VR lens; [www.nikonusa.com](http://www.nikonusa.com)) will give you photos of your products that a typical pocket camera simply can't match. The D5100 includes a handy swiveling display.



High-end memory cards, such as the SanDisk Extreme Pro SDHC UHS-I card (\$299.99; [www.sandisk.com](http://www.sandisk.com)), provide top performance for serious photographers.

isn't a specification you'll need to worry about, but if you plan to use your camera in other situations and expect to use burst mode, speed matters. The higher a card's maximum sequential speed, the better it will perform. Cameras that take high-megapixel shots will require a memory card that has a high speed. To clear things up, some companies such as SanDisk put the card speed, such as 45MBps (megabytes per second) on the label. ■

# PestControl

## REMOVE STUBBORN BUGS

*If a virus slips past your computer's defenses, it's time to roll up your sleeves and go after the bug yourself. Each month, we tell you how to remove some of the most disruptive malware on the Internet.*

### SMART ENGINE

**DESCRIPTION:** Smart Engine is a particularly tricky virus because it masquerades as legitimate antivirus software but is actually a dangerous malware application itself, classified as a rogue. Smart Engine inundates your computer with false alarms and alerts claiming your computer is infected with any number of malicious programs. The ultimate goal of the application is to scare you into buying the “full version” of the software, so that it can remove imaginary bugs from your computer. No matter how realistic or professional the Smart Engine's menus and alerts seem, it is a harmful application that must be removed quickly. It not only slows down your computer and prevents you from using certain programs, but it also puts your personal data at risk.

Luckily, Trend Micro has released its Titanium Maximum Security 2012 software (\$59.95, one year for a single user; \$79.95, one year for three users; [www.trendmicro.com](http://www.trendmicro.com)), so you can easily remove Smart Engine or any other type of malware installed on your computer. We'll show you how to use Titanium Maximum Security 2012 to cleanse your computer of this threat.

#### Telltale Signs Of Smart Engine

Because the goal of Smart Engine is to plaster your screen with fake alerts, it's very easy to tell whether it's on your computer or not. You may first notice it when visiting a Web site and trying to watch a video. A window might pop up, telling you to install something in order to watch the video. Once you install this mysterious program, you'll receive alerts saying that programs on your computer are harmful and must be blocked or that new viruses are being detected. And there will also be Desktop and Taskbar icons bearing the Smart

Engine symbol. If you see any or all of these issues, then you should run an antivirus scan immediately.

#### Removing Smart Engine

Removing some viruses is as easy as deleting an easy-to-find file, but that's not the case with Smart Engine. The best option is to install a security program, such as Titanium Maximum Security 2012 and run a full scan.

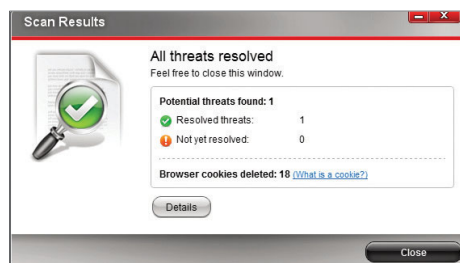
First, visit the company's Web site and download the software. The wizard makes installation easy. During installation, Titanium Maximum Security will check your system for already-installed security software and ask you to remove the program(s) to avoid conflicts.

Once the software is installed, double-click the Trend Micro icon on your Desktop and launch the software. In the main menu, click the arrow next to Scan and select Full Scan. This will ensure that every file on your computer is checked for

viruses. The software will automatically scan your computer and provide a status bar, which shows the specific files being scanned and the overall progress. When the scan is complete, the software will show you a report detailing how many threats were detected and whether they were removed. Your computer should now be rid of Smart Engine and its false alerts, as well as any other harmful applications. ■



Trend Micro's Titanium Maximum Security 2012 lets you run Quick, Full, and Custom Scans as well as set up parental controls and run a system tuner. Plus, it shows a monthly report of removed threats.



After the Full Scan is complete, the software provides a report of how many threats were found and if they were successfully resolved. In this case, one threat was found and removed.



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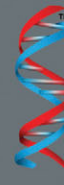


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